The Mining Journal
RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 652.—Vol. XVIII. LONDON, SATURDAY, FEBRUARY 19, 1848. [Price 6d.

Stannaries of Cornwall—In the Vice-Warden's Court.

HILL *v.* VIGERS.

IN RE POLBEROU,
OTHERWISE SAINT AGNES CONSOLIDATED MINES.

NOTICE IS HEREBY GIVEN, that the SALE of the ENGINES, MINING MACHINERY, MATERIALS, and OTHER EFFECTS, upon and belonging to the ROYAL POLBEROU MINES, otherwise the SAINT AGNES CONSOLIDATED MINES, in the parish of SAINT AGNES, within the said Stannaries, advertised to be held on the 15th day of February inst.,

IS POSTPONED
UNTIL THE FOURTEENTH DAY OF MARCH NEXT. 1

HODGE & HOCKIN, Solicitors, Truro,
For GRYLLS & HILL, Solicitors, Helston.

Dated Registrar's Office, Truro, Feb. 8, 1848.

TO IRONMASTERS, TIN-PLATE-MAKERS, IRON-FOUNDERS, BOILER-PLATE-MAKERS, &c.—A most desirable INVESTMENT IN TRADE TO BE SOLD, BY AUCTION, by Mr. GEORGE T. STROUD, on Tuesday, the 29th day of February, 1848, at the CASTLE INN, in the town of SWANSEA.

Sale to commence at Two o'clock in the afternoon precisely. 2

All that newly-erected TIN-PLATE WORKS, now in complete order for working—consisting of TWO NEW STEAM-ENGINES, ROLLING-MILLS, FURNACES, Storing-rooms, Offices, and Yards—forming most COMPACT WORKS for any of the above branches of manufacture—standing on about six acres of land in all, adjoining the River Dafen, with a railway from the works direct to the port of Llanelly, which is distant about two miles.

The premises are held under a lease, for 99 years, at the low ground-rent of £30 a-year, with power for the lessees to purchase the freehold, at a moderate price, at any time within 10 years from 1846.

For further particulars (or a view of the premises), apply to Mr. B. Jones, solicitor, Llanelly; or to Mr. George T. Stroud, auctioneer.

N.B.—The larger engine has a 40-inch condensing cylinder, 7 feet stroke—is about 80-horse power, and has three 20-feet boilers, 6 feet diameter each. The smaller engine is a 13-inch high-pressure, with a 38-feet blast cylinder, &c. There are attached to the large engine two sets of black plate rolls, shears, &c.; one pair of cold rolls, one pair of bar-iron rolls and shears, &c.

IRONSTONE AND COAL MINES, within DUCKMANTON—also, STEAM-ENGINES, BLOWING APPARATUS, &c. &c., at the ADELPHI IRON-WORKS, Duckmanton aforesaid, near Chesterfield, in the county of Derby.—TO BE SOLD, BY AUCTION, by Mr. NICHOLSON, under powers of sale, contained in a mortgage deed, at the house of Mrs. Evinson, the ANGEL INN, CHESTERFIELD, on Tuesday, the 29th day of February, 1848, at Three o'clock in the afternoon, for Four precisely, subject to such conditions as shall be then produced, the unexpired TERM of a LEASE, for 20 years, from the 25th of March, 1831, of and in certain IRONSTONE and COAL MINES, and divers MESSUAGES, CLOSES, LANDS, and PREMISES, containing 108 A. 3 R. 12 P., or thereabouts, in the parish of Sutton-cum-Duckmanton, in the county of Derby. Also, the following necessary articles for carrying on two blast-furnaces and an extensive colliery—viz.: 3

AT THE IRON-WORKS.

TWO STEAM-ENGINES, of 50-horse power each, blowing apparatus, complete, filling gear for two furnaces, cast-iron receiver, three single and one double heating apparatus. ONE 45-horse PUMPING-ENGINE, with 200 yards of pump-trees, working barrels, iron-works and runners to two blast-furnaces, and working apparatus to the same.
Cranes, cupolas, fixtures in moulding shops, one new railroad, wrought-iron (1000 yards long), on wood and stone sleepers.
One cast-iron railroad (2000 yards long), two steam-engines, level and pumping engine, ropes, gearing, &c.

AT THE COLLIERY.

STEAM-ENGINE and BOILER, winding apparatus, pump apparatus, with pumps, pump trees, with all the usual and necessary appendages, and iron tubing in the pits.

To view the premises, apply to Wm. Brookes, at the iron-works; and Wm. Moore, at the colliery; and for further particulars, application may be made at the offices of Messrs. Lucas and Cutts, solicitors, Chesterfield.—Feb. 16, 1848.

DEAN FOREST, GLOUCESTERSHIRE.—IMPORTANT and VALUABLE COAL-FIELDS, in extent about SIX HUNDRED ACRES, for ABSOLUTE SALE.—Mr. WILLIAM GRAHAM is instructed by the proprietor to SELL, BY AUCTION, at the BELL HOTEL, GLOUCESTER, on Saturday, the 4th day of March, 1848, at Three o'clock in the afternoon, subject to conditions of sale, those extensive and

VALUABLE COAL-FIELDS,
Known as the BRITANNIA and the FAVOURITE COLLIERIES. 4

LOT I.
THE BRITANNIA:
Is galed to the Coleford High Delf Vein of Coal, and all veins above it.

LOT II.
THE FAVOURITE:
Is also galed to the Coleford High Delf Vein of Coal, and all veins between it and the Churchway High Delf Vein.—These collieries adjoin each other, and contain
ABOUT SIX HUNDRED ACRES OF COAL,
And will be sold, together or separately, as may be agreed on at the time of sale.

The Severn and Wye Railway intersects a portion of the Favourite Colliery, and joins the locomotive branches of the South Wales, and Monmouth and Hereford Railways (for which an Act is obtained), a short distance to the east of them. They are very well situated, at Brierly, equi-distant between Coleford and Mitcheldean—surrounded by some of the best collieries in the Forest, and are in such an advantageous position, that both may be thoroughly worked with the same establishment.

Particulars and conditions of sale may be had at the principal inns in the adjacent towns; the place of sale; of J. R. N. Norton, Esq., and Messrs. Powles, Tyler, and Powles, solicitors, Monmouth; C. G. H. St. Pattrick, Esq., solicitor, Worcester; the auctioneer, Blue Broom, Ragland and Newport; and for a view of a map of the Forest, and the plan of the collieries, apply to John Atkinson, Esq., Coleford, her Majesty's Gaveller for the Forest of Dean; or to the proprietor,

Mr. WILLIAM COURT,
Auctioneer and general valuer, Monmouth.

TO THE COAL AND IRON TRADE.—TO BE SOLD, BY AUCTION, by Messrs. E. and C. ROBINS & CO., at the SWAN HOTEL, in WOLVERHAMPTON, on Wednesday, the 22d day of March, 1848, at Three o'clock in the afternoon, the MANOR, or LORDSHIP, of BRADLEY, and the celebrated BRADLEY IRON-WORKS, situate at BRADLEY, in the township of Bilston, and county of Stafford, consisting of COAL and IRON MINES, FURNACE, FOUNDRIES, POTTERIES, FORGE, ROLLING and SLITTING-MILL, HOUSE, for the residence of a principal, or manager, HOUSES, for agents, clerks, and workmen, and every thing requisite for an extensive iron manufacturing establishment. 5

The property is in the midst of that part of Staffordshire where the iron trade is concentrated and carried on to the great extent for which it has long been distinguished.—These well-known works were established by the late John Wilkinson, Esq., ironmaster. They are in effective and in full operation. The property is most eligibly situated as to roads and canals, by which it is intersected in various directions. The Birmingham, Wolverhampton, and Dudley Railway, which is now in course of construction, intersects a portion of the estate on the east side, and the Oxford, Worcester, and Wolverhampton Railway will pass within a few yards of the western boundary of the property.

Mr. John Dunning, of Bradley, will shew the property, from whom printed particulars, with lithographed plans, may be had; and also at the offices of Messrs. E. and C. Robins, the auctioneers, in Birmingham; John Finchett Maddock, Esq., of Chester; Messrs. Sharpe, Field, Jackson, and Newbold, 41, Bedford-row, London; and Messrs. Wagstaff, Marsh, and Barratt, solicitors, Warrington.

VALUABLE PUMPING AND WINDING ENGINES FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, at WHEAL VOR MINE, in the parish of BREAGE, CORNWALL.—

1 60-inch DRAUGHT ENGINE, 10-feet stroke in cylinder, and 8 feet in shaft, main beam and caps, top nozzle, spring piston and rod—all new this year; with four boilers, of 12 tons each, in excellent repair.
1 80-inch DITTO, 10 feet stroke in cylinder, 7½ feet in shaft, cylinder, piston, bottom and cover, nearly new, with two boilers, of 12 tons each, and three boilers, of 10 tons each, all lately thoroughly repaired. 6
1 40-inch DITTO, 9 feet stroke in cylinder, and 7 feet in shaft, without boilers.
1 30-inch WINDING ENGINE, 5 feet stroke, with two boilers, of 4 and 6 tons, and vertical cage, all in complete repair—the boilers and some other parts nearly new.
1 18-inch DITTO, 4 ft. stroke, with one boiler, of 5 tons, and horizontal cage, complete.
Several TONS of straight and turned STEAM-PIPES.
12-head CAST-IRON STAMPS AXLES, with bearings, oak frames, &c., complete.
A powerful WEIGHING MACHINE, nearly new, comprising every requisite.
An immense number of PUMPS, matching-pieces and windbores, 12 to 17-inch bore, with working barrels, doorpieces, H-pieces, cases, with stuffing-boxes and glands to match, from 11 to 19 inches bore, and plunger-poles, from 12 to 19 diameter.
Faggotted rod and cap plates, 6, 7, and 8 inches wide, staples and glands, eyerunners, caps, saddles, troughs and gudgeons for balance and other bobs.

Application to be made to Capt. R. Blight, jun., on the mine.
Dated Nov. 29, 1847.
N.B.—The above are of easy transit to Hayle wharfs, and from thence on ship-board, if required.

PEMBROKESHIRE.—TO BE LET, for a term of years, the valuable VEINS of ANTHRACITE COAL and IRONSTONE, under the FARM of CRESWELL, comprising about 300 acres.—The shallow veins of coal only have been partially worked, by virtue of surface levels, but the main, or timber, vein is quite whole.
The property lies on a branch of the Milford Haven, where quays, coal-yards, and other requisites for shipping, are already constructed. The branch of the South Wales Railway, leading to Hobbs' Point, will also pass through a part of the farm.
For further particulars, apply to James Wilson, mineral agent and surveyor, Haverfordwest.—Feb. 7, 1848. 7

FOURDRINIER'S PATENT SAFETY APPARATUS, for THE PREVENTING ACCIDENTS IN MINES AND OTHER PLACES, WHEN THE ROPE OR CHAIN BREAKS.

By the ADOPTION of this INVENTION the LIVES of the WORKING MINERS may be PRESERVED, and the PROPERTY of the MINE OWNERS PROTECTED from the serious consequences of either of the following accidents—viz.: 8

1. From the men, or the load, being precipitated to the bottom of the shaft when the rope or chain breaks: in this case the apparatus is *self-acting*.
2. From either the men, or load, being drawn over the pulley: in this case, also, the apparatus is *self-acting*.
3. From the fearful consequences to men or load of a "whirl," or run: in this case the result is equally *certain*.

A COAL PIT, with the SAFETY APPARATUS ATTACHED to the CAGE, is daily at WORK near BURSLEM, in the STAFFORDSHIRE POTTERIES.

To inspect the apparatus, or to obtain any further information, application may be made to Mr. Edward N. Fourdrinier (the patentee), Cheddleton, near Leek, Staffordshire; or to Mr. Joseph Fourdrinier, 68, Arlington-street, Camden Town, London—who are prepared to GRANT LICENSES for the USE of the PATENT.

BANWEN IRON COMPANY.—Notice is hereby given, that the next ORDINARY GENERAL MEETING of the shareholders of this company will be HELD at their offices, 23, Threadneedle-street, London, on Monday, the 28th inst., at Twelve o'clock precisely. 9

By order,
23, Threadneedle-street, Feb. 16, 1848. S. P. HARRIS, Secretary.

BRITISH MINING OFFICES—NOTICE.—The BUSINESS of these OFFICES will henceforth BE CONDUCTED at No. 25, FLEET-STREET, LONDON, and No. 4, STAMP-OFFICE BUILDINGS, MANCHESTER, to either of which offices communications are requested to be addressed. The correspondence and reports, with the accounts, of the respective companies may be inspected at all times, on application. 10

WILLIAM SHEARMAN,
British Mining Offices, Feb. 17, 1848. JAMES TRUSCOTT.

CARTHEW CONSOLS MINING COMPANY.—At a Special General Meeting of adventurers, in the CARTHEW CONSOLS MINING COMPANY, held at the British Mining Offices, 4, Stamp-office Buildings, Manchester, on Friday, the 11th February inst., pursuant to circular,

JOSEPH SMITH, Esq., in the chair,

The objects for which the meeting was convened having been conveyed by the chairman, the following resolutions were submitted *seriatim*, and carried unanimously:—

That the rules and regulations be adopted and entered in the Cost-book, and that the same be signed and admitted by the respective adventurers.
That Mr. W. Shearman be appointed as purser.
That Capt. H. F. Stephens be appointed as cashier and chief superintendent. 11
That Mr. James Gray be appointed as agent and engineer.
That Mr. W. H. Gray be appointed as storekeeper—that he be required to furnish, monthly, an abstract of the stock account.
That the management of the affairs of the mine be henceforth conducted at the British Mining Offices, and that the sum of 12 guineas per month be paid for the same—such sum to include all charges for rent and stationery, services of manager, purser, consulting engineer, clerks, &c., except any payment made for stamps or carriage, or such as may be allowed by the finance committee.
That no transfer fees shall be charged, and that the form of transfer laid on the table be approved.
That a finance committee be appointed, in accordance with the sixth resolution, passed this day; and that the financial management of the affairs of the mine be conducted in Manchester—that the sum of five guineas per month be allowed for the services of the committee, and that the same be charged in the monthly cost-sheet.
That Mr. John Fry be appointed as the doctor, or surgeon, of the mine—whose services be paid for in the ordinary manner.

On the resolution of the chairman—moved and seconded,—

That the thanks of the meeting be given to Mr. Henry English, for the services rendered by that gentleman—such motion was carried unanimously.

JOSEPH SMITH, Chairman.

Moved by Mr. Truscott; seconded by Mr. Rawson,—

That the cordial thanks of the adventurers be, and are hereby, given to the chairman, for his urbane and gentlemanly conduct in the chair this day.—Carried unanimously.

W. SHEARMAN, Purser.

TINCROFT MINING COMPANY.—At a General Meeting of adventurers, held at the offices of the company, 44, Finsbury-square, on Thursday, the 17th inst., 12

Resolved,—That the reports and accounts, now submitted, be received, adopted, and entered on the minutes; and that, for the future, there be appended to the usual quarterly statement of accounts a supplementary account, showing, up to the most recent period practicable, the cost and returns of the mines, and a statement of the ores on surface, so far as ascertained.—Carried unanimously.

Resolved,—That the thanks of the shareholders be presented to the chairman and directors, for their able and judicious management of the affairs of this company.—Carried unanimously.

EAST WHEAL FRIENDSHIP MINING COMPANY, adjoining Wheal Friendship, which has returned upwards of £400,000—to be

WORKED ON THE COST-BOOK PRINCIPLE,

Under the inspection of Mr. Richard Edwards, Manager of Wheal Franco, Plymouth Wheal Yeoland, &c.

TREASURER—William Eales, Esq., 159, Fenchurch-street. 13

Report of J. H. Hitchins, Esq., of Wheal Maria.

In viewing the sett generally, I have only to remark, that I consider it one possessing advantages of more than ordinary character, and, as a mining investment, as good as any can be—the lode at present in the adit end, now driving east of the River Tary, being the large masterly one of Wheal Friendship Mine, which has proved so profitable to the adventurers; from 4 to 5 feet wide, intermixed throughout with gossan, mundic, copper, peach, prian, and all the other characteristics comprised in the term kindly.

Application for shares, and for further particulars, apply at the office, 48, Threadneedle-street, City.

IMPORTANT MINING SHARES FOR SALE.—Captain JOHN SPARGO announces to his friends, and mining adventurers generally, that he is instructed to SELL SHARES in the following MINES—the qualities and prospects of which are well known to him, from his having superintended the operations therein for many months—and, in some instances, for years. 14

The peculiar advantages to be obtained in the present instance is, that the whole of the purchase-money is to be paid into the funds of the different mines, for the purpose of providing the necessary capital for putting them into full operation; Capt. Spargo, therefore, highly recommends these mines, as affording an opportunity of purchasing on most liberal terms.

NORTH WHEAL FRIENDSHIP—TIN MINE.

200 (1024ths) shares, at £3 per share.

This mine is in a position to *ensure dividends*, as soon as the necessary machinery is erected. A large pile of tin, of excellent quality, is now at grass: excellent stones of tin can be broken at the present level; and I can undertake that returns can be made before one-half the sum intended to be provided by the sale of the above shares is expended.

The mine can be worked by water-power.

GREAT WHEAL FREDERICK—TIN MINE.

500 (2048ths) shares, at £2 per share.

This mine is well known as having formerly returned large quantities of tin above the adit level. During the last two years I have superintended the operations. Large bunches of tin are gone down in the different adits, and nothing is now required but to erect machinery and sink upon the lodes. The mine is capable of being worked by water-power. I estimate the cost of erecting machinery and sinking for deeper levels at about £800, and I have no doubt of making ample dividends in a very short period.

WHEAL SAMSON—GOLD, SILVER, AND COPPER MINE.

200 (2048ths) shares for sale.

The extraordinary quality of the ore in this mine justifies the most sanguine expectations. Many hundred pounds' worth of silver ore has been returned by a few miners from the branches of the lode. Samples have been broken by the present proprietor, worth, at least, £150 per ton. The main lode has now been discovered, and driven upon between 40 and 50 fathoms, at about 15 fathoms from the surface. Levels can be taken up on the course of the lode from the sea-shore, giving backs of from 60 to 70 fathoms, and there is every assurance of a large course of ore. I consider that from £600 to £800 would do all that is necessary in this mine, and that it is one of the most extraordinary speculations in the county. Shares in this mine have been sold for £40, but the above number of shares will be sold at a very low price, and the whole amount applied to working the mine.

Captain SPARGO is also instructed to SELL a FEW SHARES in the

EAST ALVENNEY MINE.

This mine is now working—the whole of the necessary machinery is erected: a shaft is sunk on the course of the lode. The quality of the tin in the finest that can be produced in Cornwall. The adventurers are now about to commence stoping on a rich course of tin, and there is no doubt but the mine is now on the eve of paying ample dividends.

ALSO, AN ENTIRE TIN SETT.

This tin mine is of great promise. The whole sett will be disposed of at a moderate price.

Applications for shares in these mines to be made to Capt. JOHN SPARGO, Down Gate, Stoke Climsland, near Callington, Cornwall; or to Mr. James Lane, 75, Old Broad-street, London, at whose offices plans and specimens may be seen.

CONTRACT FOR DREDGING HARWICH HARBOUR.—The COMMISSIONERS for executing the OFFICE of LORD HIGH ADMIRAL OF THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND, are desirous OF RECEIVING TENDERS FOR DEEPENING HARWICH HARBOUR.

Plans, with specification and form of tender, may be seen by intending contractors, on application to Messrs. Walker and Burges, 23, Great George-street, Westminster, on and after the 1st day of March, 1848. 15

Tenders are to be delivered at the Admiralty, before Twelve o'clock noon, on Saturday, the 25th March, 1848.

The Lords of the Admiralty will not be bound to accept the lowest, or any of the tenders.—Feb. 17, 1848.

TO CAPITALISTS.—A CAPITALIST is WANTED, to ASSIST in CARRYING OUT the MANUFACTURE, &c., of a PATENTED ARTICLE, the practicability of which is established, and can be clearly shown. Machinery, and a fair stock in trade, are already provided, and are immediately available. The risk is unusually small, and the prospective advantages very great, from the unlimited extent to which the invention will be applied, through its combination of economy and power. A gentleman of engineering acquirements or influence would be preferred. A knowledge of business is not necessary. None but principals will be treated with, and references of respectability will be given and required. 16

Address, by letter only, Messrs. Dean and Sons, 16, Essex-street, Strand, London; or "A. B.," Box K 4, Post-office, Liverpool.

TO LEAD SMELTERS AND OTHERS.—WANTED, by a person of undoubted character and qualifications, a SITUATION as MANAGER, or ASSAYER, to a respectable Lead Smelting firm. Has had great experience in smelting, and perfectly understands the different modes of smelting and refining, as well as the assay of ores generally.—Letters, addressed "A. B.," care of Mr. Noah, 116, York-road, Lambeth, London, will meet with immediate attention. 17

A GENTLEMAN, who understands COPPER and LEAD SMELTING, in all its branches, by the reverberatory process, and who is now in Germany, studying that by the blast, wishes AN ENGAGEMENT. Has no objection to go abroad. The advertiser understands the French, German, Spanish, and Danish languages.—Letters (pre-paid), addressed "C.," care of the Editor of the *Mining Journal*, 26, Fleet-street, London, will be forwarded. 18

PARTNERSHIP.—The PROPRIETOR of an old established and improving concern in the HYDRAULIC, ENGINEERING, and MANUFACTURING BUSINESS in TOWN, is desirous of meeting with a GENTLEMAN, having at his command from TWO THOUSAND to THREE THOUSAND POUNDS, who would be willing to JOIN him as a PARTNER, and able to relieve him from a portion of the more onerous duties of the concern. None but principals, or their solicitors, will be treated with.—Application by letter, in the first instance (pre-paid), to be made to Messrs. Few and Co., Covent-garden, London.—No other application will be attended to. 19

MANUFACTURING PREMISES, SOUTH WALES, on the banks of a tide river, about a quarter of a mile from a station on the South Wales Railway, TO BE DISPOSED OF; the PREMISES, which are held on lease, at a low rent—27 years of which are unexpired—consist of a large GLASSHOUSE CONE, with extensive BUILDINGS, TWO COTTAGES, and about FOUR ACRES of LAND. They have, for many years, been in operation as a manufactory of charcoal, sugar of lead, and naptha, but, with a slight alteration, might be adapted for other manufactures.—There are TWO STEAM-ENGINES, and other APPARATUS, which may be taken at a valuation. Coal may be had delivered on the premises at less than 5s. per ton.

For further particulars, apply to T. W. Lawford, jun., solicitor and land agent, Tregdall, Llandilo, South Wales.

TO BE SOLD, a STEAM-ENGINE, of the first order.—An entirely NEW STEAM-ENGINE, of 25-horse power, supported upon an independent cast-iron frame and condensing cistern—having been intended for a foreign station, where the price of coal is very high. It has been constructed with special care, to ensure economy of fuel and good performance, with two cylinders combined, upon Woolf's principle of expansion, metallic pistons, &c.—fitted in the best manner, with two strong tubular boilers, 7 tons each. The whole is now in process of manufacture, by Messrs. Harvey and Co., the eminent engine-builders, Hayle Foundry, Cornwall. 21

Parties in want of a steam-engine of this power, will find the above a very desirable purchase.

Application to be made to Mr. W. Brunton, jun., C.E., Pool, near Truro, Cornwall.

TO ENGINEERS.—WANTED, ON HIRE, a PUMPING-ENGINE, of 40-horse power, to be erected on a MINE, at the cost of the contractor, and worked at an annual rental, with the option to the adventurers to purchase the engine at the expiration of one or two years.—Any party willing to make a contract of the above nature, may address to Mr. Robert Serjeant, Callington, Cornwall, stating particulars of terms, &c. 22

WANTED, in good repair, a SECOND-HAND WINDING and PUMPING-ENGINE, from 20 to 30-horse power, and PUMP WORK, for a 30-fathom shaft. Also, a STEAM-BLOWING ENGINE, from 15 to 24-horse power.—Address (pre-paid) to "A. B.," care of the Editor of the *Mining Journal*, 26, Fleet-street, London—stating price, name of makers, and place where the engines can be seen and inspected. 23

PUMPING-ENGINE WANTED.—A SECOND-HAND CONDENSING ENGINE, of recent erection, and in the best order, of about 60-inch cylinder, and 8-feet stroke; also, about FORTY FATHOMS 18-inch PUMPS.

Full particulars of make'rs name, where situate, and price, which must be very low, to be addressed to "A. Z.," at Mr. Syrett's, 72, Old Broad-street, London. 24

STEAM-ENGINES.—From 8 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM. 25

Price—£12 to £16; with boiler, £22 per horse.

LAND DRAINAGE.—Mr. W. HUGHES, Civil Engineer, begs to announce, that he undertakes the INSPECTION of ESTATES to be DRAINED, the SETTING OUT of DRAINS, the RECLAMATION of LAND, and the GENERAL SUPERINTENDENCE of WORK, at a FIXED CHARGE PER ACRE, according to the extent of land.—Full particulars may be had on application to Mr. W. Hughes, C.E., at the office of the *Mining Journal*, 26, Fleet-street, London. 26

TO MINE AND COLLIERY COMPANIES AND PROPRIETORS.—TWO SURVEYORS, thoroughly competent, are desirous of undertaking the SURVEYS of MINES and COLLIERIES, on terms advantageous to those who may have occasion for their services.—SALES or PURCHASES of SHARES in the above attended to with promptness and punctuality, on the usual commission. 27

3, Cannon-row, Westminster. DE WINTON & BONE, Surveyors.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON,*

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities. 28

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.* 29

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS. 30

MONEY.—MESSRS. KILLICK & CO. (late WINSTANLEY, KILLICK, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged. 31

6, Bank Chambers, opposite the Bank of England.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY, 32

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

ADCOCK'S PATENT SPRAY PUMP.—This important INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 2, Moorgate-street, London, where pamphlets, descriptive of the invention, may be had; at the office of the *Mining Journal*, 26, Fleet-street; and through any respectable bookseller—price 6d. 33

LAMBERT'S PATENT FLEXIBLE DIAPHRAGM WATER VALVES, or TAPS.—A certain PREVENTATIVE of LEAKAGE, superseding the use of the metal plug-tap, which is so continually out of order. They are more durable, less expensive, and being nearly frictionless, are opened and closed with perfect ease. They have been tested under various pressures, and have given the greatest satisfaction.—MANUFACTURED ONLY by the Patentees, 34

THOMAS LAMBERT & SON, Brass and Cock Founders,
30, New-cut, Blackfriars-road.

SIR JAMES MURRAY'S FLUID MAGNESIA.—Prepared

under the immediate care of the inventor, and established for upwards of 30 years.—This elegant preparation is recommended in all cases of bile, acidities, indigestion, gout and gravel, as the most safe, easy, and effectual form in which magnesia may—and, indeed, the only one in which it ought—to be exhibited, possessing all the properties of the magnesia now in general use, without being liable, like it, to form dangerous concretions in the bowels, it effectually cures HEARTBURN without injuring the coats of the stomach, as soda, potass, and their carbonates are known to do; it prevents the food of infants turning sour; in all cases it acts as a pleasing aperient, and is peculiarly adapted to females. It has long been known that the most serious consequences have frequently resulted from the use of solid magnesia, which has been proved by Mr. Brande and many other eminent chemists, to form concretions in the bowels, endangering, and, in some instances, destroying life.—Sir HUMPHREY DAVY testified that this solution forms soluble combinations with uric acid salts in cases of gout and gravel—thereby counteracting their injurious tendency, when other alkalies, and even magnesia itself, had failed.

From Sir PHILIP CRAMPTON, Bart., Surgeon-General to the Army in Ireland:—
"DEAR SIR,—There can be no doubt that magnesia may be administered more safely in the form of a concentrated solution than in substance; for this, and many other reasons, I am of opinion that the fluid magnesia is a *very valuable* addition to our Materia Medica.—PHILIP CRAMPTON."—Sir J. Clarke, Sir A. Cooper, Dr. Bright, and Messrs. Guthrie, and Herbert Mayo, of London, strongly recommend Murray's Fluid Magnesia, as being infinitely more safe and convenient than the solid, and free from the danger attending the constant use of *soda or potass*.

Letter from J. Murray, Esq., Lecturer on Chemistry, F.S.A., P.L.S.:—
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'Believe me to be your's, faithfully, JOHN MURRAY, F.S.A.
"To Sir James Murray, Dublin. Portland-place, Hull, Aug. 30, 1839."

The following testimonial of the celebrated "Distin Family," who are well known to her Majesty and the nobility of England proves the great value of Sir James Murray's fluid magnesia, and is very encouraging for delicate persons going to sea:—
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"To Sir J. Murray. Tuthill's Hotel, Dawson-street, Dublin, Feb. 19, 1839. THE DISTIN FAMILY.

From Dr. KENNEDY, Master of the Lying-in Hospital, Dublin:—
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IMPROVEMENT IN THE SAFETY-LAMP.

In last week's Journal, we noticed the reading of a paper, at the Geological and Polytechnic Society of the West Riding of Yorkshire, at Huddersfield, by the Rev. W. Thorp, "On a New Lamp," "which will effectually remedy all the defects in the lamp of Sir H. Davy—affording *five times more light*, and being, it is said, perfectly safe in every condition of the coal mine." The lamp, we are informed, "has received the unqualified approbation of a great number of persons, nine of whom were coal-owners, or viewers of collieries, and more conversant with fire-damp than, perhaps, any other persons in Yorkshire. Two great defects exist in the old lamp of Sir H. Davy—first, it affords too little light, and, therefore, the miners frequently prefer to work with a candle in danger than use it; secondly, it is not safe; and the Miners' Association of Newcastle have just published '*An Exposition of the Insecure Nature of the Davy and other Lamps, as applied to Coal Mining, taken from the Parliamentary Report, for* 1835.' In order to obtain more light, the Rev. W. Thorp introduces, with considerable ingenuity, the argand, or rather the solar burner, characterised by the circular wick, and the air admitted through its centre from the bottom of the lamp, protected, of course, by gauzes of wire. Connected with this part of the lamp is an adjustment, placed outside of the cistern, by which the wick can, with the greatest ease, be raised or lowered. Over the light is applied a chimney of iron, based with a few inches of glass, with air admitted to supply the exterior of the flame from the inside of the lamp. This is so securely fixed, that it cannot be displaced or broken from the ordinary falls or minor casualties to which these lamps are liable to be exposed. Having obtained the great desideratum—a much higher illuminating power, or more than five times the quantity of light the Davy lamp affords, or that equal to two mould candles generally used by miners—the next object being to ensure perfect safety in every condition of the mine, there are inserted into the chimney four or five chambers of wire gauze, so that the flame of ignited gas has to traverse eight or ten meshes before it can possibly reach the exterior fire-damp; but as one mesh, as in the old lamp, is perfectly safe, unless exposed to a current, and as no lateral current of gas or air can be exerted upon the flame on account of the chimney, the lamp is perfectly safe. And it is found, by any artificial means, utterly impossible to pass flame through these chambers of gauze, so that it appears to be quite safe under every circumstance and condition of the mine. There are other advantages over the Davy lamp of no inconsiderable value:—1. It requires trimming only once a week; 2. The oil does not fall out if laid on one side; 3. It is much more easily cleaned; 4. The cheapest oil can be used in it. The price of the lamp will be only 3s. or 4s. more (perhaps less) than the Davy lamp; and the latter can, at a small expense (5s.), be converted into the new lamp. A cast metal instead of a brass cistern can be made, by which the new lamp can be sold for even a less price than the Davy lamp. As no patent will be taken out for the new lamp, and the whole of the improvement is generously given to those interested in collieries, the Rev. W. Thorp expresses an earnest wish that all lamps may be purchased of Mr. W. Ramsden, of Wakefield, through whose valuable assistance and labour he has been enabled to produce the lamp."

THE SAFETY-LAMP—TESTIMONIAL TO Dr. CLANNY.

We last week briefly noticed, that a testimonial had been presented to our correspondent, Dr. Clanny, by his friends and admirers; as the subject is one of interest, we now give a more detailed report of the proceedings. The company assembled at the Athenæum, Sunderland, "for the purpose of doing justice to Dr. Clanny's merits, as the originator of the safety-lamp, by presenting to him a testimonial of merit and esteem, consisting of an elegant silver salver, and a purse wrought of gold thread, containing 100 sovereigns." Among others present were the Sheriff of Newcastle (Capt. Weatherly), R. M. Glover, Esq., M.D., the Rev. W. Webb, rector of Sunderland, the Rev. R. Skipsey, B.A., P. Laing, W. Ord, J. Murray, C.E., J. Laing, E. M. Watson, J. J. Wright, — Atkinson, R. Smart, R. Webster, C. Bramwell, D. Jonassohn, C. Webster, H. Tanner, R. Orton Meak, Scurfield, Esqs. On the motion of Mr. J. J. WRIGHT, the Rector of Sunderland was called to the chair. The rev. gentleman said he was most unexpectedly invited to preside on that occasion, and, therefore, he should not detain them with any remarks of his own. At the same time, he must say he had great pleasure in taking a part in those proceedings. They were all aware, that the meeting was convened for the purpose of presenting to Dr. Clanny—a man of high talent and scientific celebrity—with a testimonial indicative of the regard in which they held his abilities and character. (Applause.) Dr. Glover, of Newcastle, would present the testimonial; and without further detaining them, he would call upon that gentleman.

Dr. GLOVER, on coming forward, was received with applause. He said that he was not prepared to present the testimonial to Dr. Clanny, but he was exceedingly proud and happy at being called upon to do so. It had been his lot to be engaged in some writings on the subject of the share of merit due to different parties in the invention of the safety-lamp, and he felt that the present occasion was that on which the facts might be finally rectified. On personal grounds, also, he considered it the highest honour to present the testimonial to Dr. Clanny. Some individuals supposed that, because they wished to do justice to Dr. Clanny, relative to the invention of the safety-lamp, therefore they were desirous of doing injustice to others, and to detract from the merit of Davy and Stephenson. This was a great mistake. Those parties had been rewarded; they had received from the coal trade a liberal recompense; Dr. Clanny alone, who had a very great share of merit, had been up to that period without any testimonial to his undoubted merit as the original inventor of the first safety-lamp. He placed Dr. Clanny's merits in regard to the safety-lamp on these grounds. He was, unquestionably, the person who first called attention to the subject, and suggested the idea of lighting mines with safety to the miner; and the published *Transactions of the Philosophical Society*, in 1813, put his claim to the merit of priority completely beyond doubt. There were some people who would not believe this; but they simply refused to see with their eyes, and there could not be the slightest doubt that Dr. Clanny was the first person who invented a safety-lamp. This safety-lamp, although perfectly safe, was not of a kind so as to be easily applied to practice; but in all investigations as to scientific discoveries, the point to be ascertained when they inquired as to priority of claim, is, whether the proper path had been entered upon. Sir Humphrey Davy afterwards published an account of four safety-lamps, not one of them having the wire gauze, and two of these were mere alterations of Dr. Clanny's lamp. It was evident that Dr. Clanny entered on the right path, and Davy took the same road, and followed it. Dr. Clanny laboured to improve the safety-lamp, which many persons (whether rightly or wrongly, he did not stay to consider) regard as unsafe, and had succeeded in producing a lamp which many miners declare is the best that has been invented. On those grounds, then, the testimonial was presented to Dr. Clanny. Every one who knew the doctor, knew also that he had many claims of a private nature on their respect and esteem; and, in his medical capacity, he was entitled to the best wishes of every member of the profession, and, he would add, of the public. His communications to medical works have been by no means few, and they were very important. Dr. Clanny, by his researches on gas, and the blood in particular, has earned for himself a name which will not die. (Applause.) He only wished the present had been 10 times as much as it was—1000 sovereigns, instead of 100, in addition to the silver salver; but such as it was, he had great pleasure in presenting it. (Applause.)

Mr. RENNIE, an old respectable inhabitant of Bishopwearmouth, wished to say a few words to the meeting; as no one, perhaps, was better acquainted with the history of the early stages of the safety-lamp than himself. In 1806, Dr. Clanny was a resident at Durham, when a terrible explosion occurred. Dr. Trotter, of Newcastle, published a theory to prevent such occurrences in future. At that time he (Mr. Rennie) was engaged in mathematical and philosophical inquiries, and he was personally acquainted with Dr. Clanny. Some conversation took place then, when Dr. Clanny suggested that a lamp for the use of the miners, perfectly safe, would be the only means of preventing explosions. Dr. Clanny immediately proceeded with experiments, and, at great cost, both of money and labour, he succeeded in producing a lamp, which, at the time, was universally admitted to have the priority of claim. (Hear, hear.) He rejoiced that, after a period of 30 years, Dr. Clanny should receive some small compensation for his philanthropic exertions for the preservation of human life.

Dr. GLOVER then presented the purse and salver; the latter was inscribed as follows:—
"Presented to William Reid Clanny, M.D., F.R.S.E., hon. M.R.I.A., K.J.J., by sincere friends and admirers, in testimony of his merit in having been the first to conceive and carry into effect the construction of a safety-lamp, to burn in the explosive air of coal mines, with safety to the miner, and which he tested in an extensive field of fire-damp, in the year MDCCCXV., in approbation of his unwearied exertions in bringing the safety-lamp to a state of comparative perfection, and in further testimony of his long and continued labours in the cause of science and humanity.

President.—The Most Noble the Marquis of Londonderry, G.C.B.
Vice-President.—R. S. Pemberton, Esq.
Committee.—George Johnson, Esq., Capt. Weatherley, H. G. Potter, F.L.S., F.G.S., T. Richardson, M.D., M. Dunn, Esq., T. Taylor, Esq., J. J. Wilkinson, Esq., J. Murray, Esq., C.E., W. Mountain, Jun., Esq., E. Potter, Esq., C. Webster, Esq., E. Marling, Esq., T. E. Harrison, Esq., C.E., R. M. Glover, M.D., secretary: 1847.

Dr. CLANNY, *in limine*, thanked the chairman for his kindness in taking the chair. They were disappointed, and, in their emergency, the Rector of Sunderland was kind enough to come forward and occupy that position, which was no easy matter for any gentleman, without having received previous notice. After the eloquent speech of Dr. Glover he was afraid he should be at fault; it was always a difficult matter to speak of one's self, and, therefore, he should adopt the Scotch nobleman's motto, "Let the deeds show," and leave the works to speak for themselves. He saw around him many of his best friends, and he was satisfied that men of science had ever evinced a disposition to reward him, even more than he deserved. In an especial manner he desired to return his thanks to the promoters of this testimonial—to the President, the Lord Lieutenant of the county, (he had lost one valued friend in the death of the vice-president), the committee of management, and although last, not least, to his talented friend Dr. Glover, the honorary secretary, and executive. He might mention that he never expected to receive so splendid a token of their regard; but one day two friends of his came from Newcastle, and stated to him that several gentlemen of that town wished to do him this high honour. He replied that he was entirely in their hands, and that he did not look for anything of the kind, considering that humanity has its own reward; however, Dr. Glover and Mr. M. Dunn were very earnest about the matter; a committee of gentlemen was formed (amongst whom was the Sheriff of Newcastle, whom he was happy to see present); and it was gratifying to him to receive the exhibition of their kindness that day, especially proceeding as it did from men who are themselves the ornaments of their profession. He then adverted to the question of safety-lights. It was frequently curious and interesting to observe from what small beginnings great events arise. He might instance in proof of this the steam-engine, and many other inventions, which are now in operation around us. A very great and important change had taken place in coal mines in the North of England during 30 years. When he first turned his attention to the subject of safety-lights for coal mines, he was considered as a visionary; and it was not until permission was obtained for a trial of his original safety-lamp in the Harrington Mill Pit, containing 100 acres of fire-damp (at that period—viz.: 1815—the property of the Lady F. E. Vane Tempest, now the Marchioness of Londonderry), that he could have an opportunity of thoroughly testing its value in a coal mine, known to be greatly infested with fire-damp. He had then to bribe the engineman to go down with him and another gentleman into the pit, and the man would not go down until he had got drunk. They went down, and tried the lamp in inflammable air with perfect safety. From that moment he had the greatest confidence in the success of the invention, and so had the engine-wright, W. Paterson, a brave, humane, clever, and industrious man—so much so, that on his death Lord Londonderry settled a pension on his widow. He saw the other day, from records drawn up by a clergyman of the Established Church, that during the last 15 years 5000 persons had been destroyed by fire-damp. It would appear, therefore, that the safety-lamp was only yet in progress; and he could only say that, although up in years, he was desirous of proceeding directly and indirectly in the same course. The safety-lamp had been to him a source of considerable expenditure; but it had been a hobby, the amusement of his leisure hours, and he was happy to find that it had been of advantage to an industrious portion of his fellow-countrymen. Whilst on the subject, he might mention that in Ald. Copeland's collieries the men refused to work with any other lamps; and in Monkwearmouth Colliery, the property of W. Bell, Esq. and partners, his lamp had been introduced, at the request of the pitmen. (Applause.) He might also mention that several most eminent viewers had expressed their approval of his lamp; indeed, he almost daily received letters from these gentlemen, stating that to whatever he wrote on the subject they would affix their names. He said this without boasting; for he admitted that the invention was to him an impulse, and with him a hobby—and having ridden it for 30 years, he thought that was long enough for any individual. He begged again to thank the committee and the subscribers, and especially his rev. friend, the rector, for his kindness in taking the chair. (Applause.)

The CHAIRMAN again expressed the gratification which he felt in the recognition of Dr. Clanny's services in the cause of science and humanity, and stated the obligation which the miners generally are under to the doctor. After which the proceedings terminated, with a vote of thanks to the chairman.

GAS AND GAS METERS.

A very interesting and instructive lecture was delivered by Mr. N. Defries, inventer of the patent dry meter, in the White Swan Tavern, High-street, Deptford, on Wednesday evening, on the importance of having a cheap, brilliant, and pure light, and upon other matters connected with the manufacture of gas. The auditory was numerous and respectable. Mr. Defries stated, that in bringing the subject before the meeting, which was one of such immense importance to the people at large, he would, in the outset, make a few observations relative to the manufacture of gas for illuminative purposes. There were gases of a quality much superior to others; and he was happy to say, that in some of the companies in London, a great improvement had within the last two months taken place, as regarded the quality of the gas manufactured by them. (Hear, hear.) Previous to the period he had stated, the gas generated by most of the London companies was so charged with sulphur and ammonia, that it could not be introduced into private dwellings, without injury both to health and furniture, and, in fact, those companies seemed to generate it, not so much for the sake of the gas itself as for the sake of the coke—(hear, hear)—but now he believed there were only two companies in London who generated gas, and sent it to their customers charged with sulphur and ammonia. As examples of the improvement which had taken place in the quality of gas, he could not do better than refer to the South Metropolitan and the Greewich Gas Companies—they being in neighbouring towns—both of which, as well as most of the London companies, with the exceptions he had named, made excellent gas for illuminative purposes. (Hear, hear.) The obvious reason why gas was not more used in private houses than it was arose from the fact of that hitherto generated, by so many companies, being so much impregnated with sulphur; and an instance of that he met with six months ago, and which would also illustrate the demand which would ensue for gas for private houses were it manufactured of a really good quality.

The instance which came under his notice was that of a private gentleman, who, as many others did, usually dined at his club, and seeing the brilliancy and beautiful quality of the gas used there, he resolved upon introducing it into his own residence. He accordingly did so—was supplied first by one company, whose gas was bad, his family not being able to tolerate the sulphur it emitted. He tried another company, and that company supplied him with so excellent a gas, that he not only had it taken into his dining-room, but to every room in his house, including bed-rooms. (Applause.) Now such would be done in almost every case were a good gas manufactured; and he felt justified in saying, that it was the cheapest, the safest, and the clearest light that could be used—cheapest, because it did not cost one-fourth of oil, wax, or tallow—safest, because, while insurance companies rated an extra stove as hazardous, they never did so in the case of gas—and cleanest, because it would not soil the finest linen. (Hear, hear.) It was only, then, necessary that companies should send out a pure and good gas to have it generally used. And how was the public to be ensured of this good gas? How was it to be divested of the sulphur and ammonia, which in many cases so much impregnated it? Certainly not by the system pursued by some companies, of having superintendents and workmen who understood nothing about the nature of gas (hear, hear); and who, instead of testing it (as they would require to do) almost every half-hour, did not perhaps do so in twenty. (Hear.)

He was told they had a very bad quality of gas in Deptford, and on being down that day he had tested it, in order to ascertain its exact quality. He found, on doing so, that the gas in that house (the Swan Tavern), where he was lecturing, was of excellent quality, while upon going into another street, and testing it in a chapel and in a private house, he found it was impregnated with sulphur to an almost intolerable degree. (Hear, hear.) Now, he could not make out how that difference in quality could arise, unless it was that the company had several mains—[A Voice: "They have three mains"]—and had sent good gas through the one that supplied the Swan, because he was to lecture there that evening. The reason why companies manufactured gas of so bad a description was to save expense, and he was confident that none of the London companies could send out good gas, from the heavy expenses to which they were subjected, at a cheaper rate than 6s. per 1000 feet. Small country companies could give it considerably cheaper, being subjected to a comparatively small expense; and in Deptford he had not the least hesitation in saying, that a good article could be manufactured for 5s. 6d. per 1000 feet. (Hear, hear.) Then their expenses were comparatively trifling to what the London companies were subjected to. In Deptford gas-works could be erected and put in operation for some 6000*l.* or 7000*l.*, while in London such could not be done under 300,000*l.* or 400,000*l.* (Hear, hear.) And then let them think of the expenses of management attending the London gas companies, combining the inspectors, managers, clerks, collectors, and so forth; while their other expenses of an incidental character were very heavy. One company was rated at the enormous sum of 4000*l.* Great loss was sustained through consumers surreptitiously burning; and the leakages in the mains produced a constant and heavy loss. As a proof of the utter impossibility of preventing loss of gas in the mains, the lecturer stated, that he himself had put down a main of 200 yards; and, although every joint was well tested, and no escape discovered, a great deal of gas was lost in its passage through the tube. All the large companies are subject to this evil—therefore, he advised that the best article should be procured; and he trusted that the London companies would not be asked to lower their prices, as the maintenance of a fair rate of payment formed the only chance of obtaining a good article; but be it how it might, he pledged himself to the public to be their watchman, and, to the best of his power, to look after and support their interests. (Hear, hear.) Why he, himself, would undertake to erect works in Deptford, and serve the community with good gas at 5s. 6d. per 1000 feet, provided that community pledged themselves to support him. (Applause.)

Then, with regard to the meter question. He was—the meeting might, perhaps, know, and if they did not, he begged to tell them—the inventor of what was termed the dry meter. He had disposed of from 18,000 to 20,000 of these within the last eight years. The dockyard authorities of Woolwich had given him great support, and burned their gas night and day—while, at the Thames Tunnel, his meters had been in use night and day for four years—equal to about 30 years of ordinary use. Their registration was recorded daily, and found to be infinitely correct. In the Queen's Palace, the Government offices, the large club-houses, churches, chapels, theatres, &c., his meters would be found working with universal satisfaction. They had also been used in Deptford; but he was told by the superintendent of the Deptford Gas Company that they did not answer, and that many of those used there had stopped. But what was the reason of their doing so? Certainly, if they had given so much satisfaction in all the places he had mentioned where they were used, and while they were, at the same time, so extensively patronised by the London companies, there must be some reason of an extraordinary nature why they were not suited for the temperature of Deptford—(hear, hear, and laughter)—and that reason was very plain. It was the bad gas that was manufactured there that was the cause. (Hear, hear, hear.) He had examined several of those meters which had failed, and he found the works of them completely stuffed up with sulphur—so that it was not the fault of the meter or the gas-fittings, but the fault of the gas. The original sort of meter that he constructed was, generally speaking, working satisfactorily; but it contained no protection against the gas corroding the machinery; and wherever bad gas was found, corrosion was likely to ensue. It was this cause, and this alone, that had produced the results of which the superintendent of the Deptford Works complained. It was to remedy the great evil of the gas affecting the machinery, and stopping the action of the meter, that he invented his new protective rotary valve, by which, as the meeting could see in the model before them, the machinery was secure from the action of the gas, and which offered the most efficient protection against the greatest impurity. The lecturer having then stated that his meter was the best yet found out for detecting fraud on the part of the gas consumers, as the companies who used them could not possibly be cheated, proceeded to illustrate the mode of manufacturing pure and brilliant gas by means of working machinery, which he had provided for the purpose. Gas generated in a retort at one end of the platform passed from the hydraulic main into what is termed a condenser, formed of zig-zag plates, and filled with water, which cooled it. From thence it passed to the washer, thence to the purifier—an invention of Mr. Leslie's—which was composed of a series of perforated plates, upon which a composition was laid, which absorbed the ammonia.

The Scotch gas companies, he mentioned, in passing, only used a dry-lime purifyer, and they manufactured the best gas he had ever seen, and he did not see how they could not manufacture as good gas as the Scotch did, unless it was that the Scotch were not coke-dealers. (Hear, hear, and laughter.) But notwithstanding that, whatever might be the merits of Mr. Leslie's purifier—and its merits were, no doubt, great—he thought its use might be dispensed with; for if pure gas was generated throughout England, no purifiers would be needed; but as matters stood, it would be of the most essential service to the inhabitants of such a town as Deptford to be able to purify their own gas. From that purifier, then, it went into the gas-holders, from thence it was carried into one of Mr. Defries's patent meters, which had a dial-plate affixed, and which was capable of registering the 600th part of a foot. He then showed the light of the gas proceeding through the meter, which was of a beautiful appearance, considering the quantity of foul air which, on its first appearance, it had to displace. (Applause.)

By way of illustrating the fact, that dry meters are superior to wet meters, inasmuch as that gas, in its passage through any liquid, absorbs a portion of that liquid, Mr. Defries exhibited Mr. Low's naphthalising light, in which the gas passes through a sponge, saturated with naphtha, and which was shown to add very greatly to the purity and brilliancy of the light. The converse, he stated, was the case with water; and that gas which passed through water must, in consequence of its absorption of that liquid, have its luminous qualities diminished. Mr. Defries here proceeded to speak of the water-meter, which, besides being so well calculated to be practised upon by designing persons, possessed many defects, which Mr. Clegg (the inventor) had said, it would be impossible to overcome. It also offered the greatest facilities for fraud. (A voice, "How?—tell us how?") He thought that the companies had suffered enough already from this practice, without him learning the meeting and the public now to continue it. (Applause.) Suffice it to say, such was the case, to a great extent; and an instance, which he would quote, contained the most conclusive proof. Some little time ago, a person brought a meter to him to be repaired, in consequence of its having stopped registering; and he not only discovered to what company the meter belonged, but he found that a hole had been made through the bottom and the partition, by which the gas passed without registering. He also showed the effect produced on one of Mr. Leslie's burners, in which, by the introduction of what is termed a "combustion chamber," a light, which consumes not more than 3½ ft. of gas per hour, is made to yield an intensely brilliant light, far exceeding in brilliancy that produced by the universal burner, which consumed about 7 ft. of gas per hour. These illustrations created much interest, and elicited considerable applause. The lecturer, after stating that gas should not be less than 400 specific gravity, then went on to dilate on the importance of good gas, and good metres, to the community. They were matters of general public utility; and he was determined, wherever his metres were found fault with, to go to that place, and investigate into the cause, as he was satisfied that, did they, in any instance, fail, such failure would be caused by the gas, and not from any defect in the metre. (Hear.) He concluded, by stating, that, should the people of Deptford decide on establishing a new gas company, he would give them all the aid in his power, free of expense; and having been a gas engineer for 23 years, he ought, by this time of day, to know something of the subject. (Loud cheers.)

A vote of thanks was then cordially passed to the lecturer, which he acknowledged; and, in doing so, regretted they had not a literary institution in the place, where they could have met, and pledged himself, should they get such erected, he would subscribe 5*l.* to its funds, and deliver the first lecture in it. (Cheers.)

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Asiatic—14, Grafton-street	2	P.M.
MONDAY	Statistical—12, St. James's-square	8	P.M.
	British Architects—16, Grosvenor-street	8	P.M.
	Chemical—Society of Arts, Adelphi	8	P.M.
	Medical—Bolt-court, Fleet-street	8	P.M.
TUESDAY	Medical and Chirurgical—53, Berners-street	8½	P.M.
	Civil Engineers—25, Great George-street	8	P.M.
	Zoological—11, Hanover-square	9	P.M.
WEDNESDAY	Society of Arts—Adelphi	8	P.M.
	Geological—Somerset-house	1	P.M.
THURSDAY	Royal—Somerset-house	8½	P.M.
	Antiquaries—Somerset-house	8	P.M.
	Royal Society of Literature—4, St. Martin's-place	4	P.M.
	Medico-Botanical—32, Sackville-street	8	P.M.
FRIDAY	Royal Institution—Albemarle-street	8½	P.M.
	Philological—12, St. James's-square	8	P.M.
SATURDAY	Royal Botanic—Inner Circle, Regent's-park	3½	P.M.
	Westminster Medical—17, Saville-row	8	P.M.

The History and Practice of Mining in the British Isles,

IN RELATION TO METALLURGY.

MR. ROBERT HUNT'S LECTURES AT THE LONDON INSTITUTION.

LECTURE VI.—COBALT, NICKEL, ANTIMONY, BISMUTH, AND RARER METALS.—GENERAL VIEW, PRACTICAL AND THEORETICAL, OF MINERAL FORMATIONS IN GENERAL.—DECOMPOSITION OF LODES.—ELECTRICITY OF MINERAL LODES, &c. &c.—MINERAL WEALTH OF THE UNITED KINGDOM.

On Thursday, the 10th inst., Mr. Hunt delivered the last of this interesting course of lectures. He reminded his audience, that in the previous lectures he had dealt with those mineral productions which were of the most importance to our commercial economy; but there were some others, though not so valuable, which could not be omitted from a complete description of the mining operations of the kingdom. And yet several of those inferior metals were not unimportant productions—as the annual value of the manganese ore, for instance, obtained in Devonshire, amounted to 40,000*l.* or 50,000*l.*

The mining operations by which manganese, cobalt, bismuth, antimony, and other similar metals were obtained, were in no respect different from those already described. The manganese mines, in fact, at Lifton, in Devonshire, were quarrying rather than mining, the depth at which they were sunk below the surface being exceedingly small.

Of manganese there were several English varieties—namely, the *psilomelane*, the *manganite*, the *wad* or *bog manganese*, the *varvacite*, the *carbonates*, in three states of oxidation—protoxide, deutoxide, and peroxide. In addition to the mines of Lifton, there were small workings in Warwickshire, not far from Birmingham, and at Nuneaton. On the table were several specimens. One of them was a remarkably fine varvacite, containing 81·12 of protoxide of manganese, 13·48 of oxygen, and 5·40 of water. The proportions of the principal ores were as follows:—Grey oxide—manganese, 86·85; oxygen, 3·05; water, 10·10. Earthy manganese—oxide of manganese, 68·0; oxide of iron, 6·5; carbon, 1; water, 17·5; baryta and silica, 7. Siliceous manganese—oxide of manganese, 52·60; silica and lime, 39·60; oxide of iron, 4·60; magnesia, 0·50; water, 2·27. The psilomelane compact manganese ore contained—red oxide of manganese, 69·79; oxygen, 7·36; baryta, 16·36; water, 6·21; silica, 0·28.

One of the specimens of manganese on the table was exceedingly interesting, as showing the curious manner in which the changes so common to the mineral kingdom in general took place. Another, a carbonate of manganese, had, by exposure to the atmosphere, become oxidised. A third was coated with deutoxide of manganese; and the fourth was an admixture of the oxides. Manganese was extensively used as a bleaching agent, and in the manufacture of German sheet-glass. In the ordinary glass manufacture, the oxide of iron was employed; and it was essential that it should be left in the condition of a deutoxide, otherwise it rendered the glass coloured, instead of white. This was effected by the admixture of a little manganese. If, however, the manganese was used in excess, however slightly, the glass became of a pinky hue, when exposed to the sun, as in the tropical climates.

Cobalt was a metal of considerable importance, though the quantity raised in this country was not large. The cobalt of Cornwall was a bright white variety. One of the specimens on the table, brought from St. Just, in that county, was very curious. In the midst of a mass of the yellow sulphuret of copper, there was a beautiful crystal of bright white cobalt. Another variety was the tin-white cobalt, found at Huel Sparnon, near Redruth. The specimen exhibited was a *regulus*, being combined with arsenic. There were besides, an earthy cobalt, found at Alderley Edge, Cheshire, and in Ireland; and the cobalt bloom, so called from its pink tinge, obtained in Cornwall, and in the lead mine of Tyne Bolton, near Alston, in Cumberland. The bright white variety contained—cobalt, 33·10; arsenic, 43·47; sulphur, 20·08; iron, 3·35; whereas the tin-white sort only contained, of cobalt, 20·31; arsenic, 74·21; iron, 3·42; copper, 0·15; and sulphur, 0·91.

The use of cobalt was almost exclusively the production of a beautiful blue pigment. The name of this ore—cobalt—was derived from *Cobalus*, an evil spirit, believed in by the miners of the Hartz mountains. This evil sprite was believed to be exceedingly perverse and untractable—qualities to which a fancied resemblance was found in the great difficulty of reducing cobalt ores. In the same way, nickel derived its name from another of these Hartz demons, known by the appellation of *Nicholas*. Nickel generally occurred in combination with cobalt, though not in large quantities in this country. It was used largely in the manufacture of German silver, and was imported from East India, Norway, and Sweden. British varieties were found at Merthyr Tydvil in Wales, and in Cornwall. In the latter, cobalt and nickel were rarely or never found in connection with copper lodes, but in some part of the cross-courses which dislocated the lodes. When a copper lode had been severed by an elvan course, those metals were then sure to be found in that portion of the elvan which was between the severed lodes. In fact, it was never mixed up with the copper ore at all. The specimen which he had described as a bright crystal, imbedded in a yellow sulphuret of copper, might be thought a contradiction; but he did not believe that specimen was a lode-stone, properly so called; but it had, most probably, been taken from the cross-course. Nickel was mostly found in the form of a sulphuret, when it usually contained—nickel, 64·76; sulphur, 30; cobalt, 1·24; arsenic, 4.

Bismuth was produced in Cornwall in several places. At Huel Sparnon, it was found in tin-white crystals, and at St. Just, it was united with the tin of the Balleswidden Mine, which, until the last few years, had been reckoned of an inferior quality, on account of the difficulty of separating the bismuth from it. Now, however, that process was performed without difficulty, by the aid of a solution of muriatic acid. Nothwithstanding large quantities of bismuth were imported from Sweden—indeed, with cobalt, as much as produced a revenue to the crown of that country, of 70,000*l.* annually—in England considerable quantities would be found, by searching the heaps of rubbish cast from the other mines. At the Dolcoath Mine, the talented lecturer said, he had seen large masses scattered about among the rubbish; and at St. Just, there were several spots where he knew he could, at the present time, put his hand upon nickel, if he were there, which were now entirely neglected. At the Wherry Mine, near Penzance, where the workings ran for a considerable distance under the bed of the ocean, cobalt had been obtained in considerable quantities, and thrown to waste. This was very much to be regretted, though, he had no doubt, as we advanced in the arts, there would be sufficient found in the west and in the north to supply all our wants, without importing any. Bismuth was an exceedingly fusible metal; it would melt in the flame of a candle, or at the temperature of boiling water. The sulphuret of bismuth contained—bismuth, 80·98; sulphur, 18·72; silica, 0·30.

Antimony was a metal of considerable importance, though the quantity here raised was not large. It occurred in Dumfriesshire, in a fibrous or laminated condition, and in the greenstone of Cornwall, in a massive form. The principal supply of antimony was brought from Singapore. The quantity existing in the island of Borneo was something very remarkable, and it formed one of the chief sources of the wealth of that interesting locality.

Antimony Jamesonite, so called after Mr. Jameson, the celebrated metallurgist, contained:—Antimony, 34·40; lead, 40·75; iron, 2·30; sulphur, 22·15; silica, ·40. Sulphuret of Antimony contained:—Antimony, 73·77; sulphur, 26·23. Great difficulty had existed in times past, as to separating the antimony from the lead with which it was associated; but that was easily achieved by a simple chemical arrangement. From the large quantities of this ore existing near Liskeard, it was to be regretted that more attention was not paid to it.

There was another metal of a curious character, which he would mention—viz.: uranium. This mineral, which was generally combined with copper, gave the beautiful opaque pea-green colour to ornamental glass. It was to be found in several parts of Cornwall, particularly at the Wheal Buller and at Carn Brea. Capreo-phosphate of uranium was also found at the Tincroft Mine, at Huel Buller, Huel Gorland, Huel Unity, Tolcarne, and in Gunnis Lake Mine, near Callington; and, until lately only, specimens had been gathered as curiosities, and the remainder had been thrown to the heap. It had lately, however, become so valuable to the glass manufacture, that great efforts were being made to get more of it. A few days ago, he (Mr. Hunt) had been applied to by some eminent glass manufacturers in Birmingham, to inform them where in England uranium might be obtained.

Arsenic and sulphur entered into the composition of nearly all the minerals raised in Cornwall, in the lead districts of Wales, and in the north. Sulphur was exceedingly valuable, but by far the larger quantity of it obtained was allowed to go to the waste. True it was, that some years ago, when his Sicilian Majesty, from whose dominions nearly the whole of our supply was obtained, attempted to increase the duty, attention had been turned to our own production, and several manufactories had been established, and the iron pyrites turned to a good account. The rich sulphuret of iron found in the county of Wicklow, yielded a great deal of sulphur.

The tin mines of Cornwall produced a large quantity of arsenic, which was obtained by the roasting process to which the tin ore was subjected. The arsenical fumes thus produced, were collected in long chimneys, conducted up the sides of the hills, and the arsenic thus obtained being subjected to a second sublimation, the white arsenic of commerce was produced. The arsenic trade of Cornwall was extensive, and large quantities were exported to Russia, in the condition of lumps.

There was only one other metal which he should now mention, and that was *plumbago*, of which lead pencils were made. The celebrated mines in Cumberland had latterly fallen off very much in quantity, but the fears which had been entertained that we should no longer be able to manufacture lead pencils, had been removed by the promulgation by Mr. Brockenden's process, which, by the application of hydraulic pressure, the particles of powdered blacklead was again brought within the limits of cohesion, so as to bear slicing in the manner requisite for the formation of pencils. Specimens of plumbago had been found in the porphyritic dykes of Cornwall, and in the slate districts, near Ilfracombe.

Such were the minerals of Great Britain; and he would now call attention to the physical phenomena connected with mineral formations. A question of the greatest importance, which had continually arisen from the earliest periods of time, was the age of the mineral formations. Whether or not the mineral veins were of the same age as the rocks in which they are found, or more recent? Whether they had been formed by forcing themselves through the fissures in which they now lay, or by the process of deposition? Whether, when the surface of the earth was submerged beneath the great ocean, there had been a gradual precipitation from which the lodes had arisen? These, and other characteristic questions, had long occupied the attention of the greatest philosophers, and the most enlightened men of science.

Werner held the theory, that every vein which cut across another vein, must be more recent than the vein which it intersected; indeed, it was evident, that that those veins which were dislocated must have been broken by the fissures in which other veins had formed, or by the infusion of the mineral matter through the mass of rock. It was also known, that at Charlestown, and at Crinnis, the veins were actually cut through by fossiliferous strata, in which there were remains of animal life, which must have existed at the time the lodes were formed, or before that period. In order to give an idea of the ages of the rocks, Mr. Carne divided the lodes into eight different periods:—1. The oldest tin lodes.—2. More recent tin lodes.—3. The oldest east and west copper lodes.—4. The contra copper lodes.—5. Cross-courses.—6. The more recent copper lodes.—7. Cross flookans—and, lastly, slides. Whether or not these would hold good, there was not a sufficient amount of evidence to prove; but Mr. Carne's arrangement had been of considerable use in the investigation. It was quite certain, that the ores found in lodes had been chemically suspended, and had, at one time, been in a state of aqueous solution; this was evident, from the beautiful arrangement of the crystals, which was one of the most remarkable characteristics of these formations. There was no denying, that the beautiful sulphurets of lead, quartz, and of zinc, were the result of those metals having been held in a state of aqueous solution; and there were also found many magnificent ores, of a similar crystalline character, in the grey and yellow coppers; but it was also equally certain, that there were masses of copper ore to be found, in the same condition as that in which they must have been primitively formed. Take, for instance, the pure native copper of Lake Superior, which existed in enormous masses, and the oxides of copper in the Australian mines. In the latter case, there were no regularly-formed lodes, but mere deposits, in beds of clay-slate, of the richest oxides of copper. It was possible, however, that the South Australian produce might have been formed in the state of native copper, and afterwards changed, by undergoing an oxidisation. At Lake Superior, it was originally formed as native copper, and remained in that condition to the present day. Not so, however, with the ores of Cornwall. The sulphurets there had probably been first in the form of native copper, projected through the rocks by the igneous action, to which was attributed the upheaving of the granitic masses. This native copper, by the action of surface water, and the chemical changes produced by the atmosphere, had undergone very remarkable alterations—a sulphuretted solution had resulted, by means of which the ores were first deposited in the fissures, in which they were now found.

A question, and a very pertinent one, had arisen with respect to this subject—namely: was it not possible, that the metals originally existed in a state of diffusion throughout the whole of the crust of the earth? It was this very question which misled the alchemists of old, when they believed, that Nature, in her subterranean labotory, had the power of transmuting one metal into another; and yet the remarkable differences which existed between the various metals in some of their most obvious qualities, might have deterred them, one would have thought, from seeking to discover the secret. For instance, how different were the degrees of heat at which the various metals melted! Potassium melted at 70°, while iron required 3479°; tin melted at 442°, and lead at 612°, while copper required 2548°. The differences in their malleability and ductility were equally remarkable; while their specific gravity was as greatly varied as their colours. It had been stated, a few years ago, that the secret of transmuting iron had been discovered, but this turned out to be a mistake. The metals, however, might have been universally diffused, for they found iron in almost everything; and, in all probability, if they had chemical tests sufficiently delicate, the other metals might be found to be equally diffused. He had been informed, by a gentleman of the highest chemical standing, that he had extracted, from a certain quantity of the petals of the blue violet, a weighable, though a minute, portion of gold. He was not at liberty to name the gentleman; but, were he to do so, every person present would at once recognise him as the highest possible authority on such a question. There might be a mistake in the matter, but he could not believe that that could be the case in such able hands.

To leave, however, these subjects of speculation, he would proceed to deal with the metals as simple elements, and study their distribution. Certain rocks had affinity for certain metals only; thus the granite and slate held copper, tin, and zinc, while the limestone rarely yielded anything but lead. The talented lecturer, by a reference to a number of diagrams, proceeded to point out the various associations in which the lodes were found. The lodes bore a remarkable relation to the elvan courses and porphyritic dykes which traverse the county of Cornwall, east and west; and there was sufficient evidence to show, that the greater portion of those lodes were formed after the formation of fissures; the latter being clearly the result of the upheaval of the granitic masses. Suppose the slate to have been the original stratum, and the granite forced through the slate, the necessary consequence would be, the formation of the cracks in which the lodes were found, and the lodes must, of course, be the more recent. That the granite, which had been thus protruded forcibly through the slate, was then in a state of fusion, was quite certain, for they had continually occurring instances, in which the granite was found in conditions which could not be accounted for on any other supposition. With regard to the elevating force, Mr. Hopkins had well remarked as follows:—"I assume this force to act under portions of the earth's crust of considerable extent, at any assignable depth, either with uniform intensity at every point, or, in some cases, with a somewhat greater intensity at particular points; as, for instance, at points along the line of maximum elevation, of an elevated range, or at other points where the actual phenomena seems to indicate a more than ordinary energy of this subterraneous action. I suppose this elevatory force whatever may be its origin, to act upon the lower surface of the uplifted mass, through the medium of some fluid, which may be conceived to be an elastic vapour, or, in other cases, a mass of matter in a state of fusion from heat."

Such was the probable explanation of the formation of fissures, which, by a chemical agency, most likely at the period when the rocks were submerged in the great ocean, the lodes were formed. It was quite clear that the lodes could not have formed by the protruding of the masses from below; for, if that had been the case, the deeper the mine, the richer would be its produce. The fact was just the reverse; for, taking the whole of the Cornish mines, it would be found, that below the depth of 150 fms. the quantity of the produce always diminished. That the masses forced up from below, were in a state of fusion, or semi-fusion, was proved by the fact, that rolled flints, which had been obviously subject to the action of running water, were found embedded in those masses. Had the formation of the lodes been from below, the crystals being porous, the greater the depth at which they were worked, the greater would have been the quantity of water found; but experience showed that, unless the strata were very much broken up, in which case, the surface water was freely admitted, the quantity always sensibly diminished below the depth of 100 fms.

A powerful electro-chemical agency also had a large share in the formation of the lodes, though, at present, the laws by which it acted were unknown. By that electro-chemical agency, there was no doubt, the lodes had ever been, and were now, undergoing remarkable changes. He had before mentioned the rapid decomposition going on in the yellow copper ores; and the other metals were, more or less, subject to the same influences. It had also been ascertained, that lodes might be formed in a very moderate period of time. At St. Ives, a remarkable instance of this kind had come under his observation. In a cavern in that locality, there was on one side exposed a portion of copper ore, which was, in fact, the outcrop of a copper lode. Quantities of wet sand were constantly blowing into that cavern and encrusting the rock, and he had found that a lode had formed itself through the sand. The decomposition of lodes, the talented lecturer illustrated by a very interesting chemical experiment. Two pieces of copper ore were immersed in murinte of barytes; the action of which threw off the sulphates of iron and copper. The iron oxide thus formed, accumulated on the sides of the glass—while the sulphate of copper, becoming a sulphate of barytes, fell to the bottom; the pieces of ore being converted from the yellow to the grey variety. As a further illustration of this subject, Mr. Hunt proceeded to describe an experiment, which he had brought to a conclusion a short time ago. A large mass of Stourbridge clay, moistened with a solution of sulphate of copper, was placed in a wooden box, about 2 ft. square, on the opposite ends of which was a plate of zinc and a plate of copper. These plates were connected by a wire; and the whole was left for about 12 months. At the expiration of that time, he cut the clay in two, and found that, on the side next the zinc, the clay had been converted into clay-slate, and had assumed a schistose appearance. This was an appearance he had succeeded in producing in stones as hard as the Bath oolites. On the copper side, there was a distinct consolidation of the clay into nodular masses, as in the formation of the clay ironstones. This had the effect of withdrawing a portion of the clay from the centre of the mass, and leaving a large hole, which the miners would call a "vug," filled in with crystals. When these curious results were found in connection with such simple combinations, and were considered in relation to some of the laws to which Prof. Faraday had adverted, the universality of magnetic action would seem to be proved. It was now well known, that there was an electric current traversing the earth from east to west, and that the highest magnetic force was from north to south; and it appeared to him exceedingly probable, that these agents were largely concerned in the formation of mineral veins.

Mr. HUNT concluded his eloquent address in the following terms:—"I have now described the principal mining operations of the United Kingdom, with the order of occurrence, and the mineralogical characters of all the ores of the metals employed in the arts and manufactures of Great Britain; and briefly entered upon the higher philosophical question of the causes of those very curious physical phenomena which are for ever presenting themselves to the practical miner; and which, not only tell the tale of the earth's mutations, but which, if read aright, are the records of the progress of these chemical combinations which are constantly going on in that great laboratory—the external crust of our earth. Man, notwithstanding all the appliances he has brought to aid him, has yet barely pierced the film. The deepest mine in Britain, is scarcely 2000 feet below the mean level of the surface of the ocean; and, although some mines in the Hartz, and in Bohemia, are worked to a greater depth than this, yet, the depth being reckoned from the surface of the earth in a mountainous region, it is very questionable, if, by any mining operation a greater depth than 2000 feet has been reached. How insignificant is this when compared with the earth's diameter! Yet within these narrow limits we may learn to read "sermons in stones;" and to the man whose love of enquiry will lead him to encounter the trouble and the dangers of a subterranean exploration, the mine will reveal to him a new store of truths, and out of its dark recesses he may receive new illuminations, which, like the crystalline gems it holds in its secret places, will, when brought to an examination in the sunshine of true science, reflect and refract the ordinary rays, sending them back more beautiful than at first, and showing us the road through which we may add to the amenities of life and advance man in the scale of intelligence. My task, for the present, is ended. I have desired to commuicate, in the plainest language, the simplest truths; if I have been successful in this, I am satisfied, and your ever kind attention has led me to hope I have not entirely failed. (Loud and reiterated cheers, in the midst of which Mr. Hunt retired.)

GEOLOGICAL SOCIETY.

FEB. 2.—Sir H. T. DE LA BECHE (President) in the chair.

A paper "On the Fossil Remains of Birds collected in various parts of New Zealand by W. Mantell, Esq.," by G. Mantell, Esq., was read.

A paper "On the Organic Remains found in the Skiddaw Slate, with some remarks on the Classification of the Older Rocks of Cumberland and Westmoreland," by the Rev. Prof. Sedgwick, was then read. Immediately above the granite of Skiddaw Forest is a group of slate rocks of great but unknown thickness, and forming hills reaching to 3000 feet in height. Above this is a vast group of green roofing slates, alternating with feld-stone, porphyry, and trappean rocks. Above this again, are the Coniston limestone, the Ireleth slates, and several other deposits, overlaid unconformably by the old red conglomerate, and carboniferous limestone. In reference to the classification of these rocks, it is stated that good physical groups are the foundation of all geology, and the most remarkable monuments of the past history of our globe, so far as it is made out in any separate region. Organic remains are in the first instance but accessaries to good sections; though in comparing remote deposits they become the primary term of comparison. The Coniston limestone and flagstone in their lower part contain true lower Silurian fossils; all the higher part of the series, till we touch the old red conglomerate, belongs to the upper Silurian system. The lower deposits, or the green slates and porphyries, with the Skiddaw slates, are the true equivalents of the great Cambrian group of North Wales. The latter, however, contains fossils almost to its very base; whereas the Cumberland beds had never exhibited a single specimen. This rarity of organic remains may have arisen from various causes; but even in 1822, Prof. Sedgwick pointed out the existence of carbon in these rocks, and last summer gave Mr. J. Ruthven, of Kendal, directions to explore this tract. His search has resulted in the discovery of two species of graptolites, and some fucoids in the Skiddaw slate, which, consequently, is not below the limits of organic life. These fossils belong to the lowest groups, and probably very nearly mark the limits below which life has not extended.

INSTITUTION OF CIVIL ENGINEERS.

FEB. 15.—JOSHUA FIELD, Esq. (President), in the chair.

The discussion upon Mr. Green's "Account of the Sewage of Bristol," was renewed, and continued throughout the evening, to the exclusion of all other business. The main object of the paper appeared, unfortunately, to be lost sight of by the speakers, in their anxiety to bring forward, or to defend, the positions assumed by various companies, which had been formed at different periods for using the products of the sewers for agricultural purposes, but which, in the former part of the discussion, had been somewhat impugned upon commercial grounds. The statements made at this meeting were only repetitions of what has been repeatedly printed in reports, and in evidence before the sanitory commissions; and the whole evening may have been said to have been wasted, in spite of the attempts of some of the members to bring the discussion to the real question of the best modes of laying out a system of sewage for large towns, the forms of the sewers, based upon the laws governing the conveyance of fluids—which, it had been stated in some of the "blue books," were not understood by civil engineers, a statement which was shown by some of the speakers to be not consonant with facts; for that, if the selected, rather than collected, evidence given before the Health of Towns Commission were analyzed, it would be seen, that the exploded dogmas of the older writers on hydraulics had been received and adopted, rather than the formulæ of modern writers, or the actual practice of civil engineers of eminence, whose experience on such subjects was necessarily great. It was true, that hitherto, in consequence of the absorbing topic of railways, eminent engineers had not devoted themselves to the subject of sewage to the extent they might have done; but, when the time arrived for their doing so advantageously, or the exercise of their skill was demanded by the Government, or by private enterprise, they would be found quite prepared to devote themselves to the work. The subject was declared to be closed for this occasion; and the paper announced to be read at the meeting of Tuesday, February 22, was "On Sub-marine Foundations, particularly the Screw-pile and Moorings," by A. Mitchell, Assoc. Inst. C.E.

RECENT DISCOVERIES IN ELECTRICITY.

[In the *Literary Gazette*, of the 5th inst., we find the following synopsis of a very remarkable paper recently laid before the Royal Society; and we would particularly direct to it the attention of our readers, as it appears to us to be the announcement of one of the most extraordinary discoveries yet made in electricity. Those who are at all familiar with the subject must be already aware that, for a very considerable time past, philosophy has been baffled in its researches as to the actual cause of lightning. The immortal Franklin had demonstrated the identity of that sublime phenomenon and electricity, but the manner in which such enormous volumes of electricity were first generated, and then discharged, has hitherto remained an almost inscrutable enigma. One hypothesis after another has been advanced, but one after another they have proved ineffectual in resolving this magnificent mystery. Some philosophers have attributed the phenomenon to a spark, and others to an explosion; and the matter has long been vainly investigated by such men as Mr. Roberts, as Mr. Sturgeon, of the Military College, at Addiscombe; as Mr. Walker, the editor of the *Electrical Magazine*, and as Mr. Snow Harris, the distinguished practical electrician, whose lightning conductors have been very generally and successfully adopted in the navy of Great Britain. At length the proximate cause of the enormous electrical discharges called lightning, seems to us to have been definitely discovered. The discoverer, Mr. Isham Baggs, has added another great truth to those lately established and promulgated by Professor Faraday. He has, to our thinking, solved one of the noblest problems of Nature, and has proved, upon those august principles of philosophy which were first maintained by Lord Bacon—that the phenomenon of lightning is an explosion analogous to that of a Leyden jar, the intensity being derived from a consecutive arrangement of positive and negative elements—an arrangement which has been carefully noticed by Mr. Croose, as that existing in a thunder-cloud. According to the report which we here transcribe, it would appear that the opinion of Mr. Baggs has been fully corroborated by his subsequent investigations.]

ROYAL SOCIETY.—The Marquis of NORTHAMPTON, President, in the chair.—"On the Disruptive Discharge of Accumulated Electricity, and the Proximate Cause of Lightning," by Mr. Isham Baggs; communicated by Mr. S. Hunter Christie, Secretary to the Royal Society. The author proposes to inquire into the principal causes of the violent and disruptive union of opposite electricities, which constitutes the electric discharge; and to apply the knowledge thus gained to the explanation of natural phenomena, and the further proof of the identity of frictional and voltaic electricities. He describes two instruments which he employed for the purpose of regulating the discharges of a Leyden jar, or battery, by adjusting with precision the distances between two brass balls, forming a communication between the inner and outer coatings; allowing of their being charged only to a limited degree of intensity, by carrying off all the electricity beyond that extent, and thus guarding the glass from the danger of fracture from an excess of charge. He is led to the conclusion, that with a given dialectric, such as glass, the limit to the intensity of the charge it can receive, varies directly as the cube of its thickness, being in the compound ratio of the resistance it presents to the discharge, which is simply as the thickness, and of the square of the distance of the two charged surfaces, such being the law of electric action. When a number of insulated Leyden jars, arranged in a consecutive series, by connecting the outer coating of each with the inner coating of the next, is charged by means of an electrical machine, the tension of the charge diminishes in each jar as they follow in the series, that of the terminal jar being exceedingly small. On the other hand, when each jar has been charged separately in the same manner and to an equal extent, and then quickly arranged in a series, the jars not touching one another, but the knobs connected with the inner coating of each jar, after the first being placed at a certain distance from the outer coating of the preceding jar, which in such an arrangement is charged with an electricity of an opposite kind to that of the knob adjacent to it, the author found that the tension of the electricities was greatly augmented, giving rise to violent explosions whenever a discharge occurred. He considers a battery thus constituted as bearing the same relation to a single Leyden jar as the voltaic pile does to a single galvanic circle; and as affording in like manner the means of exalting, to any assignable degree, the electric tension. Adopting the views of Mr. Crosse, as to the constitution of a thunder cloud—viz.: that it is formed of a number of concentric zones of electricity, alternately positive and negative, the central one having the highest intensity, and the tension diminishing in the successive zones surrounding the innermost, till it became inappreciable in the one most remote—the author considers this condition of the cloud to be analogous to that of the battery described, and the phenomena of the former to receive complete illustration from the experimental results obtained with the latter.

THE LEAD TRADE.—The lead trade appears to be an exception to the condition of almost every other interest at this moment. The miners of Weardale and Alston Moor are in full employment, and earning good wages, and the price of lead is understood to be remunerative and satisfactory to the various proprietors in those districts. Several very rich mines are being worked at present in Weardale.—*Newcastle Journal.*

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—In the 18 fm. level end, driving west, the lode is about 1½m. wide, finely veined with ore; the pitches in back of the 18 fm. level are looking just the same as they have been for some weeks past. The ore over Doyle's is not quite so good as when last reported, worth about 12*l.* per fm. In the 12 fm. level the pitches are looking much the same as when last reported, worth about 8*l.* per fm. In the adit end the lode has improved in its appearance, and we shall set some tribute pitches in the bottom of this level as soon as it is holed to Doege's shaft, which, we hope, will be in the course of next month.—February 11.

BEDFORD UNITED.—At Wheal Marquis, the lode in the 90 fm. level, east of sump-winze, is 3 ft. wide, and worth 30*l.* per fm.; the 90 west is communicated to the 90 east of Hooper's winze; the lode in the stopes, in the back of this level west, is 2 ft. wide, and worth 30*l.* per fm. In the 80 east, the lode is 2 ft. wide, producing good stones of ore. The lode in the 70 fm. level east is at present disordered. The winze in the 80 fm. level east is stopped by water, and the men removed to sink a winze in the 47 fm. level, west of the south lode. The lode in the 25 fm. level, east of the south engine-shaft, and in the adit level east on this lode, is without alteration.—Feb. 16.

CALLINGTON.—We have commenced driving the 50 fm. level east from the cross-course, where we find it 2 ft. wide, with spots of copper ores; the character of the lode is much the same here as in the stopes, where it is 2½ ft. wide, orey throughout. In the 70 fathom level end, the lode is 2½ feet wide, producing stones of copper ores. In the 90 and 100 fathom levels south, we are opening ground that will work at a moderate tribute. In the 125 fm. level south, the lode has not been taken down; the face of it shows orey; in the north end the lode is 1 ft. big, spotted with silver-lead ores. In the 112 south the lode is 10 inches big—work of a moderate quality. In the north end we are opening tribute ground. In the 100 north, no lode has been taken down. In the 80 fm. level the lode is small, producing silver-lead ores.—Feb. 14.

COATLITHE HILLS.—During the week the men have been again employed in clearing the level east from A shaft. We have not passed the old shaft yet, but I hope to get through it in a short time.—Feb. 12.

CARADON WHEAL HOOPER.—By the desire of a shareholder, I inspected this mine on Friday last, and should have reported before, had circumstances permitted. In the 80 fathom level, south of the engine-shaft, about 4 fms., I saw a lode which had been driven on some 10 or 12 fms. east, its composition being chiefly spar and peach, impregnated with mundic and copper; its width varying from 2 ft. to 5 ft., with a southerly underlay of about 2½ ft. per fm.; it appears strong, regular, and compact, and worthy further prosecution. In the 50 fm. level, about 6 ft. north of the shaft, is a lode from 6 in. to 2 ft. wide, known as the caunter lode (which appellation I do not consider very appropriate); on this lode a level has been extended east and west, together about 30 fms.; the greater portion of it (the lode) by far is mundic, with a little quartz, fluor-spar, and copper; it has a northerly underlay of about 3 ft. per fm.; the western end of this level is partly in granite, which appears to dip south full 9 ft. per fm., and immediately as the lode enters the granite, a decided improvement takes place, from which circumstance you may reasonably expect a very favourable change in this lode at the next level, where it will be fairly settled in the granite; near the western end above-named is a cross-cut driven south about 6 fms., where several branches have been intersected; and, from their direction and underlay, they will in the course of a few fathoms west, and also in a few fathoms deeper, fall into the caunter lode. From the 50 end east is a cross-cut driven south also, about 12 fms., and some 7 or 8 fms. from its commencement an unexpected lode was intersected, which presented very flattering appearances, and by extending on it a few feet, good tribute ground was discovered in the midst of this orey ground; a rise was commenced, and about 2 feet from the back of the level a slide, or something of that nature, heaved the lode, and the rise was abandoned, and the cross-cut continued to its present extent, with a view to cut that large lode, which is about 4 fms. south of the shaft in the 30 fm. level, which is a very desirable object to be accomplished; if this lode continues in the same course as in the 30, some 2 or 3 fms. further will intersect it. The shaft is about 3½ fms. below the 50, and in favourable killas for sinking: near the bottom of the shaft is a branch from 2 to 10 in. wide, very similar to the caunter lode, and will evidently form part of the same. From the fact of these lodes being in granite a few fathoms deeper, and the productiveness of the lodes in a similar stratum in the adjoining sett, I think it highly probable that a change for the better will speedily take place in the general appearance of the mine.—Samuel Bennetts: Feb. 14.

DEAN PRIOR AND BUCKFASTLEIGH.—We have completed the drawing machine, together with the sheds, &c. The 24-ft. water-wheel, and the machinery connected, work remarkably well. We are making the necessary preparations for fixing the crusher. The masons are taking every advantage of the weather, so as to get up the walls, in order to fix the frame-work, &c., although the severity of the weather has caused some delay, not only as regards the masonry, but in the sinking of the engine-shaft, occasioned by the late fall of snow; as I hinted in my report, I expect to get the engine-shaft sunk to its intended depth by the end of this month, unless any thing occurs more than I am aware of. We have cut through the lode in the 20 fm. level; it is large, upwards of 6 ft. wide—that is, from the north to the south or hanging wall—being of a very promising description, composed of capel and spar, with spots of horse-flesh and yellow ore, of good quality. The lode in the pitch, in the back of the 10 fathom level, is without alteration. The lode in the pitch, in the back of the 20 fm level, is improved since my last report, and is about 4 ft. wide, of which 2 ft. is saving work for copper.—Feb. 9.——The lode in the 20, west of engine-shaft, is not very much improved in quality, but considerable in size, being 6 ft. wide, very regular, both in underlay and course, as proved in dialling, and compared with levels above—a plan and section of which shall be forwarded ere long, or, at least, the first opportunity I have to prepare them; the lode is composed of spar and capel, mixed with mundic, spotted also with yellow copper ore, of good quality. I expect the engine-shaft will be completed to the 50 fm. level by the end of the month, when a cross-cut shall be driven, to intersect the lode, with all possible dispatch. The walls of the house, to receive the crusher, are nearly up, and everything preparing to get it fixed, to commence dressing the ores now at surface, and what is breaking from the back of the 20 fm. level; and, to present appearances, large quantities will be produced from that part, as the lode is from 3 to 4 ft. wide, 2 ft. of it very good work—I should think, would yield 5 tons of copper ore to 100 kibbles. This place is much improved within the last fortnight; it appears to be a continuation of the shoot of ore worked on in the 10 and deep adit levels, inclining west, about 2 ft. in a fm. in depth. The drawing-machine is placed between the engine-shaft and diagonal-shaft, so as to command both at pleasure. I beg to observe, the stock of timber is nearly exhausted in the different erections. You will have the kindness to direct the agents on the mine to procure some the first opportunity they may have, as sales are often held in the immediate neighbourhood, whereby purchases can be made to advantage, and effect a saving in carriage.—Feb. 12.

DEVON AND COURTENAY CONSOLS.—In our end, driving east on the gossan lode (as it is now called, to distinguish it from the branch or south lode), the lode is 20 in. wide, composed principally of mundic and spar, with some spots of ore; having such indications so near the slide, I think we may fairly calculate on an improvement when we get into more settled ground. The lode in the end, driving east on the south lode, is 20 in. wide, worth 15*l.* per fm.; in the end, driving west, the lode is worth 8*l.* per fm. On Friday last, our setting day, we set to the sumpmen to sink the engine-shaft 10 fms., at 15*l.* per fm; this bargain, I hope, will be completed in about four months hence; from the great improvement in the last 10 fms., we may reasonably expect a good and much further improvement in that level.—Feb. 15.

DRAKE WALLS.—Brenton's engine-shaft is still hard—the branches not so good as last reported. In the 50 fm. level, east of Brenton's, there are some good branches; in the stopes east of Brenton's, below the 40, good branches; stopes, west of machine-shaft, below the 40, saving work; in the stopes, east of machine-shaft, below the 40, end poor; and in stopes below the 33 arch, tinny branches. At Johnson's engine-shaft the branches are tinny, but small. The water is becoming too quick in this shaft to sink much without the engine; next Saturday is the day fixed for setting the new engine to work.—Feb. 12.

EAST CROWNDALE.—We have sunk our engine-shaft in the past week 4 ft.; the ground is very much the same as when last reported upon. The end driving west, on the north lode, in the 47 fm. level, is very much improved in the past week; the lode is 3½ ft. wide, composed of peach, spar, mundic, killas, and a leader of copper ore, 8 in. wide. We have not as yet resumed sinking the engine-shaft at Rix Hill, the men having been engaged fixing whim, making whim round, &c.; on Monday we shall again begin to work in the shaft, everything being in order to keep the water with the whim. Our engine and pitwork are in good order.—Feb. 12.

GALLOWAY.—The lode in the second shaft is large, say, 5 ft. wide, containing spar, gossan, prian, and a small branch of flookan; this lode is nearly perpendicular, and, from its general character, we have considered it best to suspend the first shaft a while, and force down the second shaft with as much speed as possible.—Feb. 12.

GREAT MICHELL CONSOLS.—We have a decided improvement in the sump-winze; the lode altogether from 6 ft. to 7 ft. wide, is of a most promising character, 18 in. of which is producing very good work; and is, on the whole, in its general appearance, much better than we have ever seen it since we commenced sinking below the 35 fm. level. In the 35 fm. level, west of the sump-winze, the part of the lode being carried 4 ft. is without material alteration, containing mundic, spar, peach, and capel, with ore interspersed throughout. We sampled at Wadebridge, on Monday last, a parcel of ore computed 48 tons.

GREAT ROUGH TOR CONSOLS.—We have sunk at Thomas's shaft, during the past month, 2 fms. 4 ft. 6 in., making the whole depth from surface 21 fms. The ground at present is considerably more favourable for sinking that it has lately been; it is a lightish blue killas, and, at present, clear of branches and floors of spar, or quartz. The men have contracted to sink the next fathom for 16*l.* Our tradesmen are now busily engaged in getting up a capstan and shears, to enable us to make the necessary arrangements in the pitwork, to facilitate our future progress. At Morris's shaft, the ground is without any very material alteration in its geological character; it is killas, with floors and branches of quartz intermixed (making it rather more expensive), and much coloured with the oxide of iron; the price for sinking is 20*l.* per fm. This shaft is now 24½ fms. deep from surface. The water in the bottom is very little indeed; but at Thomas's it has lately very much increased downwards, but the contemplated arrangement in the pitwork will prevent any impediment to our sinking through this circumstance. From the nature of the ground, the stones of ore occasionally found in the branches, and sundry other favourable indications, which present themselves at Thomas's shaft, I look forward with sanguine expectations of great and good results on our cutting the lode.—Feb. 14.

HOLMBUSH.—The lode in the 120 fm. level north is 2 ft. wide, composed of quartz and lead, worth 10*l.* per fm.; the lode in the same level south, is 2 ft. wide, composed of quartz, mundic, and lead, worth 6*l.* per fm.; this end is just opposite the copper lode, and is rendered more foul by mundic in consequence, and no doubt will be found so till it is driven a few fms. further south from it. The lode in the 110 fm. level south, is 6 ft. wide, composed of quartz and lead, worth 10*l.* per fm. Last night there was a large vug or cavity discovered in this end, which would hold several men, with a pretty deal of water spouting from it. The lode in the north end in this level is 5 ft. wide, composed of quartz and lead, worth 5*l.* per fm.; the lode in the stopes, in the back of this level, is 5 ft. wide, composed of quartz and lead, worth 10*l.* per fm., with soft ground, and a large stream of water springing from it as heretofore. We are still cutting in east, from the western part, in this level, at another point, but have not reached the eastern part. The lode in the 100 fm. level south is 2½ ft. wide, composed of spar and stones, and some spots of lead—saving work for the stamps; in driving east, in this level, on what we have called the flap-jack lode (but we do not speak in a positive manner), we have four small branches of spar, mundic, and stones of copper ore, varying in size from 1 in. to 5 in. wide, and we hope, when we get a few fathoms further east from the lode, they will form a junction; there is one pleasing feature in it—that is, if the branches are but small, each of them contains good copper ore, and in favourable killas strata. In the 100 fm. level cross-cut east, we have favourable ground for driving, but no branch has yet been seen since last reported on, and the end quite dry; it is somewhat mysterious where the water is springing from, which we have in the 110, seeing all the upper levels have been, and still are, comparatively dry. We shall prove it in a very short time, by raising above the 110 fm. level on the lode, where we have very soft ground indeed. The ground in the cross-cut east, in the 90 fm. level, is favourable for driving, but we have not extended the level far enough in that direction to intersect the branch alluded to in our last report, which was set on tribute at 10s. in 1*l.* on the value of the lead only. The lead pitches in the 100 fm. level are much the same as last reported on.—Feb. 15.

KIRKCUDBRIGHTSHIRE.—The lode in the 50 end west is large, about 4 ft. wide, producing fine stones of lead, and likely to improve. The lode in the 40 end is about 3 ft. wide, producing one-third of a ton of lead per fathom. The lode in the 30 end, west of Keith's shaft, is also large, and producing one ton of lead per fathom. In the course of another week, we expect to commence drawing in this shaft also, which will be of great importance to the mine; the lode in the winze, sinking under the 40 fm. level, produces about one ton of lead per fathom—ground rather hard. Regarding the pitches, generally, I cannot speak of much alteration since my last.—Feb. 12.

LEWIS MINES.—The lode in the 70, west of engine-shaft, is now home to a small cross-course, where the lode is in a disordered state. The lode in the 60 east is much the same as when last reported; in the 60 fm. level end east, on south branch, the lode is 18 in. wide, worth 15*l.* per fm.; the lode in the 60 west, on south branch, is 16 in. wide, worth 16*l.* per fm. The lode in the 50 east, on south branch, is driving at 6s. 8d. tribute; the tributers in the back and bottom of this level are working at 2s., 5s., 6s. 8d., and 9s., and making fair wages; the stopes in the back of the 50, east of copper ore shaft, are producing good work for tin. The lode in the 40 east, on south branch, at sump whim shaft is producing some good quality tinstuff.—Feb. 12.

MENDIP HILLS.—The lode in the 38 fm. level, south of Stainsby's shaft, is at present about 3 ft. 6 in. wide, carrying two very regular walls—the appearance of which continues much the same as it has for some time past, composed principally of white spar, flookan, and iron, with small strings of lead at times. In the slag department we are at present removing the rubbish from a large bed of slags, about 12 ft., rather coarse work, being intermixed with a quantity of mud, or waste, from the washings of the ancients, which I am not disappointed to see at this point, being the lower extremity of the slag ground. We find, as we proceed up the valley, the work becomes much better in quantity from this, as well as the average produce of the slags hitherto smelted. I think there is not the least doubt but we shall ultimately make some profitable returns.—Feb. 14.

SOUTH WHEAL MARIA.—The ground in the north cross-cut, in the 20 fm. level, from the engine-shaft, continues to yield a great quantity of water; and in the course of the last week, we have met with several branches, composed of prian, mundic, &c., &c., underlaying much faster than we suppose the lode to be north; from the present appearance, I calculate that we are very near the lode; the ground in the south cross-cut is also very wet, and we are frequently intersecting branches of spar, with spots of copper ore, dropping towards the lode; the ground in both cross-cuts has got quite a mineral appearance.—Feb. 17.

SOUTH WHEAL TRELAWNEY.—Snell's engine-shaft is in course of sinking with nine men—ground just the same as last mentioned, down under adit; in the 24 fm. level, the water is just the same as last mentioned.

TAMAR SILVER-LEAD.—The engine-shaft is now down to the 175; we have set the end to drive south to the sump-men, in which the lode is 2 ft. wide, good saving work; we shall also set the end to drive north at the same level, as soon as the shaft is cased and divided down, as the lode appears equally good going north. In the 160 end south, the lode is 18 in. wide, composed of capel, mundic, and ore, but not rich for the latter; in the north end, same level, the lode has been broken for the month. In the 145 end the lode is 18 in. wide, composed of spar and ore of coarse quality—saving work. In the 135 fm. level the lode is 5 ft. wide, composed of capel, can, and mundic, with lead ores throughout. Our tributers are working with good spirit, and the pitches are looking very much better than they did last month. The balance-bob was set to work to the 115 fm. level, on Saturday, the 12th inst., and answers well; giving great relief to the long run of rods we have in the shaft, being upwards of 180 fms. in length. At the north mine, in the 70 north, the lode is 2 ft. wide, composed of mundic, can, and ore, of rich quality. We have fixed a railroad in this level, in order to bring away the tributers' work, which will be a great quantity. We sampled on the 5th inst., 96 tons 9 cwts. of rich silver-lead ores, which sold for 1583*l.* 9d.

TIN VALE.—In my last report, I informed you of the bad state of air in Rose's adit, and that I had taken John Stocker and Co. out of the cross-cut, to rise and sink, so as to give ventilation for further operations. I thought it would have taken 10 days; but, I am happy to inform you, we have risen and sunk, altogether, 15 fathoms in the middle lode in nine days—and the lode is looking well all through the rise. I have put J. Stocker and Co. to drive the adit end south, in order to cut the great caunter lode, and we have a regular float of ore all through that part of the mine. The end, driving west, on the middle lode, looks well; and the tributers on the north lode are doing well, and working in good spirits. The lode in Floyd's adit is split in two branches, but not the worse for that, as we are rising good tin fit for stamping, and the stamps will go to work to-morrow. I have the floors all ready for the tributers to commence washing the decomposed granite from their tinstuff, lode, &c. I have plenty of timber for use in the mine, at present, and all things here are going on with the greatest propriety, although I have had a deal of trouble with the leats, the weather being so bad, and the ground so very rocky. We have been obliged to bore and blast a great many large rocks that came in contact with the leats.—Feb. 16.

TRELEIGH CONSOLS.—In the 120 cross-cut, north of Christoe's, we have cut the lode west of the slide. In the 110, east of ditto, the lode is 3 ft. wide, worth 5*l.* per fm.; the lode is improving in value, but hard. In the 100, south-east of ditto, we are driving on the slide to cut the lode we are driving on in the 110 below. In Garden's shaft, below the 100, the lode is about 2 ft. wide, with stones of ore, and we are quite through the elvans. In the 100, east of ditto, the lode is 2½ ft. wide, but little mineral, partly in elvans, and partly in killas; in the rise, above the 100 west, against the winze sunk below the 90 fm. level, the lode is 2 ft. wide, and poor. In the 90, west of ditto, the lode is 2 ft. wide, worth 6*l.* per fm.—it has been better in the course of the week; the winze below the 90 west is suspended—the water in this is very quick. In the 80, west of ditto, the lode is 20 in. wide, worth 5*l.* per fm. In the 70, west of ditto, the lode is 20 in. wide, with stones of ore, and a promising appearance. In the 60, west of ditto, the lode is 20 in. wide, worth 6*l.* per fm. At Wheal Parent, we are cutting a plat in the adit level to the new engine-shaft.—Feb. 12.

WEST WHEAL FRANCIS.—We have carefully examined the surface of this mine, and our favourable opinion is founded on the fact of the sett lying directly north-west of and adjoining South Wheal Francis; and our belief that the present productive lode in South Wheal Francis passes at the surface nearly, if not entirely, through the length of the sett, and with the north underlay which it has, must, at any productive level, pass quite through it. The West Basset lodes also pass through the entire length of the sett. The extent is 280 fathoms on the line of the lodes. The strata is killas, overlying granite; the granite will be reached in the south-east, by sinking a few fms.; and in the south-west, probably in 40 or 50 fms. We understand, that about 200*l.* have been expended in labour, &c.; and we think, to make a trial of the sett, that a farther outlay of 5000*l.* in a 60-inch engine, with other machinery, and to sink 40 fms., together with driving levels, &c., will be required.

WEST WHEAL JEWEL.—In the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 20 in. wide, worth 12*l.* per fm. In the rise, in the back of the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 1 ft. wide, worth 5*l.* per fm.; in the deep adit, west of Hodges's cross-course, on Wheal Jewel lode, the lode is 9 in. wide, producing stones of ore. In the 30 cross-cut, south from Tolcarne tin lode, the ground is favourable for driving. In the 20 fm. level, west of Quarry shaft, on Tolcarne tin lode, the lode is 1 ft. wide, producing little tin; in the deep adit, west of Quarry shaft, on the same lode, the lode is 18 in. wide, looking more promising for tin than it has been for some weeks past, worth 5*l.* per fm.; in the shallow adit, west of Quarry shaft, on the same lode, the lode is 20 in. wide, unproductive; in the stopes, in the bottom of the deep adit, east of Pryor's winze, on the same lode, the lode is 5 ft. wide, worth 35*l.* per fm. In the stopes, in the back of the 12 fm. level, west of Quarry shaft, on the same lode, the lode is 4 ft. wide, worth 25*l.* per fm.—Feb. 14.

WEST WHEAL MARIA.—The western engine-shaft is down below the 64 fm. level about 3 fms., the ground in which is favourable for sinking.

WHEAL ADAMS.—The lode in the 50 fm. level, north of the winze, continues large and productive, and the stopes are now set on tribute, at 6s. in 1*l.* on the value of the lead. As this ground cannot be worked to advantage, for want of a deeper level to drain the water, we have made preparations to commence clearing the shaft below the 50 in order to extend the 60 fm. level south, to reach the ore ground discovered in the 50 fm., both on the quartzose and the western lode, which is decidedly the most productive ground ever seen in this mine. Having met with some brown-jack in the 40, north of the new engine-shaft, we have commenced stoping the lode, and hope to be enabled to report fully on its value next week. The ground, in the 18 fm. cross-cut, is improved, both for driving and in its appearance, and we expect to reach the lode either to-day or to-morrow. Herewith I beg to hand you our setting-sheet for February month, which will give you the necessary information respecting the tutwork and tribute department, and will obviate the necessity of our writing a more lengthy report.

WHEAL MARY ANN.—The lode in the 40 fm. level is 2 ft. wide, worth 6*l.* per fm. The lode in the 30 fm. level, south of Barratt's shaft, is 2 ft. wide, worth 5*l.* per fathom. The winze under the 15 fathom level, south of Barratt's shaft, is holed to the 30 fm. level. The lode in the 15 fm. level, south of Pollard's shaft, is 1½ ft. wide, composed of gossan and some spots of lead. Pollard's shaft is sunk to the 30 fm. level; the shaft is cased and divided to that level, and the men are progressing very satisfactorily in cutting the plat; and we expect to cut the lode by the end of the present month. The stopes are looking well, and producing a fair quantity of lead.—Feb. 14.

WHEAL TRELAWNEY.—The 62 fm. level cross-cut, at Phillip's shaft, is driven 10 ft., where the ground is favourable. The lode in the 52 north, is very similar to last report—in this level south the lode is worth 10*l.* per fm.; the stopes in the back of this level are producing a fair quantity of good ore. In the 42 north the ground is rather harder than usual, worth at present 10*l.* per fm.; in the back of this level, and to the south of the shaft, the stopes are improved since my last. The 32 north is worth 5*l.* per fm.; the stopes in the back of this level are similar to last report. The ground in Trelawney's engine-shaft, and the 22 cross-cut east, is not much changed. The lode in the 30 fm. level, north of Vivian's shaft, is driven 18 fms. from Trehane boundary—the lode in the end is producing some very good ore. In the cross-cut driving towards Vivian's shaft, the ground is as expected—eased.—Feb. 16.

WHEAL TRESCOLL (the "Model Mine").—It is about five months since I first inspected this mine, accompanied by Capt. H. Williams, of Trethoil Mines. After examining 15 or 16 lodes and branches, which were cut by driving the adit level, we thought it a speculation worthy of trial; and it was our joint opinion, that it might be tried to a greater depth by the power of a horse-engine, or something to that effect, before they laid out a great sum in erecting a steam-engine. Since that time, they have opened on a lode, further south, of a splendid appearance, and well worthy of an outlay to erect a steam-engine at the first outset. The sett is very extensive on the course of the lodes—I should think nearly a mile in length, and about the same in breadth—in which there are a great many lodes, and all appear to be underlaying south into a flat bottom of decomposed granite—a strata, I should say, very congenial for tin. It is not all of a China clay nature; but rather of a rough grain granite, commonly called *glouder* by the miner, which denotes a firmer substance than a pot granite. This south lode that they have lately opened on is about 21 in. wide, underlaying about 2 ft. in a fathom, composed of fluor-spar, felspar, cockle, and large stones of tin, of a most excellent quality—a lode, I do not scruple to say, if it continues as at present, worth at least 30*l.* per fm. for tin, and not more than two fathoms from surface. There is another parallel lode, about 15 fms. south, where there can be excellent tinstuff broken—it is about 2 ft. wide, composed chiefly of felspar, cockle, and tin; altogether, good stamps work. Capt. Williams and I thought it to be worth about 600 of tin to 100 sacks, or kibbles, and, by having deeper levels and backs, it would pay well. There is another lode, about 30 fms. to the north of this, worked on by the old men as deep as they could go for water. The working from the north wall to the south is about 3½ ft. wide, by which I judge the lode to have been about 2 ft. wide; about 100 fms. west, on the line of the same lode, there has been a pit opened by the lord of the land, who declares he broke large rocks of tin, of a most excellent quality; but the water being so powerful, he was obliged to leave his iron wedge (or, to use his own terms, *arrowtens*) under a large stone of tin he was endeavouring to get out; and the labourers whom he employed at the pit made the same statements. I also beg to say, that the late reports from the officers of the mine have been correct, as regards the quality of the lode lately discovered. Three of the adventurers, in the presence of several agents, and a number of miners, tinners, &c., from the neighbouring mines, went down into the pit, and broke with their own hands most excellent stones of tin. The like I have not seen for some years past, with the exception of that broken in East Alvenney, which is now in Mr. Lane's office; and had it not been for the severity of the weather, I believe they would, to a certain extent, have fulfilled their task—namely: in breaking the first ton of tin; however, the tin they broke was valued by competent judges to be worth about 5*l.* Capt. Byce, from the Rock Mine, was present, and saw the large stones of tin broken, who stated that it was of a most excellent quality, and it was his opinion that it was worthy of an outlay to erect a steam-engine at the first outset; but as the ground is soft for driving, and the lode can be drained to a greater depth by an adit, he would advise the company to commence that operation, so as to see the lode cut to a deeper level, before erecting a steam-engine. This mode of operation altogether agrees with my own views, as well as the officers of the mine. The proprietors being present, give instructions to their agent to commence driving the adit level, so as to cut the lodes to a greater depth before erecting a steam-engine. Much has been said respecting the Model Mine. As to the word *model*, I believe it to be nothing but the Cost-book System, carried out to a full extent—that is to say, that at the end of every month, the committee of management should be made acquainted as to what the liabilities are, and the work done, in the mine for the month ended, as well as what ore has been risen and sampled, the price it brought, &c. This is all that is meant by the word model, which I consider to be the just and fair mode of working a mine—so that every adventurer may call at the office and see what his money is spent in, and whether it is spent judiciously or not.—J. Spargo: *Feb.* 17.——We have this day set on about 30 men in the open cuttings, and hope, by the end of the week, to get up to the high ground, when we shall be able to drive close. I have let the erection of the buildings, and shall immediately prepare to erect stamps, as there will be a large quantity of tinstuff from the adits, well worth saving. I will report further progress next week.—C. S. Richardson.

The "Model Mine"—Opening of Wheal Trescoll.—Thursday, Feb. 10th, was the day appointed for commencing this mine, when the lords of the estate, the agents of Lady Eagre's estates, several gentlemen from Essex, Surrey, and London, mining agents and engineers, assembled at the spot selected for opening the works—on the back of a lode, 3 feet wide, which had been cut in the stream-works. Mr. Webb, the engineer, and assistants, during the morning, had the deads, or overburden, removed—the lode laid bare, and the earthwork on each side secured; about 10 o'clock, Mr. C. S. Richardson, C.E., of London, the projector of the company, with John Mayhew, Esq., of Coggeshall, Mr. Denny, Mr. Beard, Capt. Spargo, and Mr. Richardson, jun., mining contractor, Cracknington, arrived, when the signal was given for the men to heave away at the pump; about a quarter of an hour elapsed before the lode became distinctly visible—the dark mass below gradually presenting itself to view. Mr. C. S Richardson was the first to enter the pit, and, with pick in hand, said: "Gentlemen,—The lode you have here in view is a large branch from the lode, marked E on the plans, and forms a part of the grand lode; I hereby now, with pick in hand, by this act and deed, name 'Wheal Trescoll,' and may she prove to her adventurers good and true." Mr. C. S. Richardson then commenced, and the first stone broken weighed nearly 20 lbs.—the next about 30 lbs.: 15s. was offered by one of the streamers for them, in their rough state. He worked on until he had raised about a barrowful; when Mr. Beard went down, who got up a similar quantity. Mr. Mayhew then went down, and broke some very fine rich cubes of tin, which were handed up, and some of them preserved. Mr. Denny next began, and raised a very large stone, carrying with it a very rich peth, which was also preserved. Capt. Spargo also raised several fine stones. Mr. Richardson, jun., Mr. Webb, and Mr. Finch, then finished up what was broken small; and in the whole there was about six sacks of work. The lode is about 3 feet wide, with hard capels, carrying a loose disordered peth, of 9 inches wide, composed of very rich cubes, interspersed with a quantity of fine long light cockel. Various estimates were made of the value of the ore raised, when the prevailing opinion seemed to be, that it was worth from 90*l.* to 100*l.* per fathom: the water was suffered to rise, and the lode was soon out of sight. The whole party then went to the eastern end of the sett, to examine the adit, driven some years ago, across the sett, about 40 fathoms, and wherein was said to be 6 lodes and 11 branches—all carrying tin. On arriving at the spot, a pit, sunk on the back of a fine lode, was pumped out, and the lode cut; the stone raised was of a grey nature, but very good—supposed to contain 500 lbs. of tin to the 100 sacks of work. The level was then examined, and found to contain 17 lodes and branches. The boundary lines of the sett were next pointed out, and the new works described, when it was finally decided to drive new adits—one at each end of the sett—forming a cross-cut, whereby all the lodes might be recut, and some estimate formed of their relative values, before any engine or shaft should be commenced. Mr. Richardson was asked, how long it would take to cut the ground lode at the western end, being 40 fathoms, and the rich lode (B), 137 fathoms, at the eastern end, and sunk on the same four shafts—the average depth to be 8 fathoms? He said it was his intention to have the whole completed, and a smith's shop and store-room erected, with other additional works, within eight weeks from the present time; and that, in the various drivings and sinkings, he anticipated raising nearly enough tin to pay the entire cost. The company, who were evidently greatly pleased at the day's proceedings, now separated.—On the following morning, about one-half the tin raised the preceding day had been stamped out during the night, dressed early in the morning, and sent to the smelting works at St. Austell. Mr. Martin, the manager, assayed the sample, and valued it at

ton per ton; it weighed 86 lbs., and on Mr. Richardson going there he handed him the tin bill with 2*l.* 2*s.* 1*d.* in cash as the proceeds of the sample; he then cast an ingot of pure metal for the adventurers from a mould, previously prepared for the purpose, on which was inscribed the name of the mine "Wheal Trescoll," which, with various samples, were forwarded to London—the object being to prove to the public, that what had been set forth in the prospectus had been fully verified. To make the proceedings still more novel, the purser paid the lord his dues of 1-15th on the value of ores raised, valued at 5*l.*, and then set off to town to superintend the business of the company, where he will be able, if he choose, to declare the first dividend on the first day's working, and that, too, at a good profit.—[We have received a report of the interesting proceedings at a dinner, which took place at the Lanivet Inn, to celebrate the commencement of the working of this promising mine—at which a new song, entitled "the Fine Old Mining Gentleman," by Mr. Richardson, was sung and loudly applauded. We shall notice some of the speeches in our next week's Journal, and also publish Mr. Richardson's poetic effusion.]

FOREIGN MINES.

ALTEN MINES.—*Mining Report from the 15th to the 28th December, 1847.—Raipas.*—The lode in the 5 and 10 fm. levels is still disordered, and the horse mentioned in my last report appears to have turned its course nearly at right angles; at present, we are uncertain if the 10 fm. level is driving on the course of the lode, or on a caunter vein dropping into the lode from some of the surface branches; both these levels contain good ore, but they are not so productive as before—we must get through the present unsettled stratum before we can expect any regular returns. In Monk's shaft we have intersected a small orey lode, but are unable to state whether it is Labouchere's, or only a branch from some one of the other lodes. In the course of this month, we expect it will have so far developed itself as to enable us to form an opinion; this shaft is now 3½ fms. below the 10, and the ground is favourable and promising. Carr's lode has undergone little if any change—its produce is still fluctuating, but we have reason to be satisfied with the returns. The stopes continue to yield a fair produce, which, however, the dark days prevent us from dressing and returning to the smelting-house. Our returns this month will be less than last, for reasons assigned in my last report. The prospects on the whole are equally good, and the produce for the year will not be found less than we have led you to expect. About 60 tons of ore have been brought to the smelting-house; after the Christmas holidays we hope to return the remainder of the stock, when, I have no doubt, the delivery note will give satisfaction. I enclose Capt. Monk's last report, which contains a very flattering account of the prospects of the several workings.

United Mines.—No further deterioration is to be noted in the stopes, on Ward's lode, and the improvement at Woodfall's still holds good—the produce of these mines will be rather better than I had expected.

Ryper's is still poor, but the workings have not deteriorated since last reported.

Mancur's.—The tributers are making better returns, but still less than we expected.

Michell's.—Fair returns of good ore continue to be made by the tributers, whose ardour, however, has been somewhat damped by a melancholy accident which happened a few days ago to one of our old workmen, who, unknown to the agent, had gone into an old and dangerous part of the mine in search of ore; it was some time before he was found missing, a search was made, and a run of earth and rubbish extending to the surface was observed; several men were immediately employed in clearing away the earth, but it was not until the following day that they succeeded in finding the body—the poor man had by his own incaution been buried alive; when taken out he was quite dead, but not a scratch or wound was found on any part of the body—he died from suffocation: no blame is to be attached to any other than himself; for had he stated his intention to the agent, he would not have been allowed to go into that part of the mine, which was before known to be extremely dangerous: his loss is to be deplored, inasmuch as he was one of our best and most persevering tributers.

Old Mine.—A piece of ground between the old level and Bergmester's shaft, above the adit level, easterly, has been broken through; and when the ice is sufficiently strong, on the water filling the old workings underneath, we hope to resume the workings in this part of the mine—the places at present working on tribute yield the usual good returns.

Powder-House.—The produce is still small, but good, and leaves a remunerative profit.

Cole's.—No further alteration has taken place; the prospects are, however, better than when these workings were resumed last month.

Quarwig.—The progress here, as usual, is very slow; the returns are small, but profitable.

New Lodes.—The tributers in Matthison's Valley continue to collect a small quantity of good ore at the surface; the lode below the old mine looks rather more promising, but the ground still hard and difficult to excavate. As our month does not close before the 31st inst., I am prevented from forwarding the usual estimate of the produce before next post, when I hope also to forward the delivery note to the end of December, showing good returns to the smelting-house. This month's produce is now in course of delivery, and I expect will (with the exception of Raipas) be returned by the end of this week.

Capt. Monk's Report, dated Raipas, Dec. 24, 1847.—With this opportunity I forward the summary of the ores broken at Raipas, in December, 1847, also the settings for January, 1848. The following is a brief outline of the several workings, with the present prospects in view:—In the 10 fm. level, going east, the lode is about 4 ft. in size, containing rich purple ores, and at the same time wearing an aspect of a most favourable nature, and producing about 4½ tons of ore per fm. In the roof stope, in the 10 fm. workings, the ground continues much the same as what it has been for some time past. In Monk's shaft we have sunk about 3½ fms. below the 10, with a kindly lode; on the west side of the shaft, from which we are getting some good stones of ore, the ground at present is speedy and favourable for sinking. In the 5 fm. level, the lode is about 6 ft. in size, containing some rich purple ores, and producing about 5 tons of ore per fm.; it will be observed that this level is at present being driven in a westerly direction, and not north-north-west, as was hitherto the case. In the roof stope, in the 5 fm. workings, we have also some rich purple ore, which I hope to turn to good account when the days become a little longer. In the roof stope, above Labouchere's, the lode is about 4 ft. in size, containing rich purple ores, wearing altogether an aspect of a most brilliant description, and producing about 6 tons of ore per fm.; the ground, however, is rather hard, and unfavourable for driving. In the other parts of the mine there is no alteration whatever worthy of arresting your attention.

ACCIDENTS.

The Heathfield Colliery Explosion.—In last week's Journal, we gave an account of an explosion at this colliery, by which six unfortunate workmen lost their lives, and several others were seriously injured. The inquest on the bodies was held yesterday week, at the Dartmouth Hotel, West Bromwich; and, from the evidence adduced, much mystery prevails as to the cause of the explosion. The pit appears to have been thoroughly ventilated; there has never been any collection of carburetted hydrogen since the commencement of the works; and one man was in the side of work, with a naked candle, at four o'clock in the morning, two hours before the accident, when all appeared perfectly safe. In October last, an injunction was served on the lessees, in consequence of which the works were stopped full six weeks, when the air was completely shut out; notwithstanding which, on reopening the pit, the whole was found perfectly free from gas, and a good current of air passing. The only conclusion that can at present be come to, is that a sudden fall of a portion of the barrier from the old workings allowed an instantaneous escape of a large quantity of the inflammable vapour. The inquest stands adjourned, and, probably, more light will be thrown on it when some of the injured men are able to give evidence.

Brierley Hill.—A poor boy, employed at the Park Colliery, while endeavouring to turn off the skip which he had just unloaded, was suddenly jerked from his feet by the rope attached to the skip, with which he descended the shaft of the pit, and was dashed to pieces.

Maesteg Iron-Works.—While D. Griffiths, of Newcastle Emlyn, was employed digging in a place called the Kirdin Patch, a stone fell from the top upon his head, and bruised it so that his brains fell out into his hat. He was carried to his lodgings, and medical assistance was procured, but all in vain, for he expired in a short time afterwards.

Pontypool.—John Kayes met with a severe accident, by incautiously venturing into an old working, in a pit at Cwm-nant-ddu, belonging to Mr. Ebenezer Morgan. Kayes has always been a very steady man, and frequently took occasion to caution his fellow-workmen against venturing into similar places to that in which he received the injury, which is likely to prove fatal.

Dudley—Old Park Colliery.—G. Wilkes, being in search of wood, and an empty skip having been brought to the mouth of one of the pits, to be let down on a loaded one coming up, the unfortunate lad, it appears, thought the skip was not near enough to the pit's mouth, and, pushing it further, he was precipitated to the bottom of the shaft, a depth of 30 yards, together with the empty skip. He was immediately got out, and found to be quite dead.

St. Helen's.—An explosion of fire-damp took place at Messrs. Johnson, Worthington, and Co's, Sankey-Brook Colliery, Parr. In consequence of the decay of some old workings, a volume of foul air was suddenly admitted into the new workings, where coal was being got; and being ignited by an unprotected candle, a fearful explosion took place. There were 54 persons in the mine at the time, but all escaped with safety except seven; three are now dead, and four others are lingering under severe injuries, without any hope of recovery.—*Liverpool Mercury*, yesterday.

New Field Colliery, Wolverhampton.—L. Dando was killed by an explosion of fire-damp.

Pyle, Glamorganshire.—W. Harts was killed by a fall of coal, at Messrs. Ford and Son's

The late Fatal Boiler Explosion at Manchester—Verdict of Manslaughter against the Owner.—The inquest arising out of the fatal boiler explosion at Manchester on Friday last, was adjourned from Saturday to Wednesday afternoon. There were nine dead when the jury was summoned on Saturday, but since that time three others have been added to the victims already mentioned. The evidence adduced was of a very voluminous character, and tended to show that the boiler was unsafe; and that Mr. Riley, the owner, had been frequently warned of that fact. After hearing all the evidence, the jury unanimously returned a verdict of "manslaughter" against Mr. Riley.

PREVENTION OF ACCIDENTS IN COAL MINES.—We have much pleasure in copying the following paragraph from the *Staffordshire Mercury*, as corroborative of the opinion we have on several occasions expressed, of the importance of Mr. Fourdrinier's invention, and its certainty of preventing accidents from the breakage of ropes, &c., in collieries:—"Mr. Edward N. Fourdrinier, of Cheddleton Mill, has just brought before the attention of the colliery owners of this district, a very simple and ingenious, but most important contrivance, which cannot but be hailed as an invaluable boon by all who are engaged in mining operations. The object of the invention is to prevent the many appalling accidents which are constantly resulting from the breakage of the chain or ropes, and drawing the skip over the pully, or the whirl, or run. The apparatus is now in daily use at one of Mr. Sneyd's pits, at the Sneyd-green Colliery, between Hanley and Burslem. On Wednesday last, Fereday Smith, Esq., of the mining department of the Earl of Ellesmere, and W. Pearce, Esq., of the same department of the Earl of Belcarras, attended for the purpose of inspecting the operations of this valuable invention, and were highly satisfied with the result. We have had the pleasure of witnessing several of the experiments, all of which were attended with complete success. In one instance the merit of the invention was fully tested by the chain being unintentionally drawn over the pulley; no disastrous consequences, however, resulted, the skip or rather cage being detached from the chain, and remaining safe on the guides. A heavy lode was subsequently lowered about 40 yards down the pit, and the chain cut at about 20 yards above the surface, by which means no less than 60 yards of chain fell down the shaft. A man, having been let down by a rope to ascertain the result, found the machine perfectly secured, and the chain safely coiled on the top of the cage in which the man ascends and descends. The man immediately attached the rope to the chain, which, having been drawn up and repaired, was again let down and fastened to the apparatus. The whole was then safely drawn up, with the man in the skip, the experiment having occupied no more than 20 min., and no injury whatever having been sustained either by the machine or the guides. There can be but one opinion as to the great advantages to be derived from the general adoption of this invaluable invention, and it is to be sincerely hoped that no time will be lost in making this arrangement for the more effectual preservation of human life."

TINCROFT MINING COMPANY.

A general meeting of adventurers was held at the offices, Finsbury-square, on Thursday, the 17th inst., to receive a report from the directors, as also the accounts of the company. The meeting was very fully attended.

P. N. JOHNSON, Esq., F.R.S., F.G.S., in the chair.

The advertisement convening the meeting having been read, the report of the directors, as also the statement of accounts, and the reports from the agents, were submitted:—

DIRECTORS' REPORT.

The statement of accounts, which will now be submitted for your inspection, show but a little improvement since the last meeting. This circumstance, however, is mainly attributable to the low price obtained for the tin and copper ores. Reports will be read to you, fully describing the state, position, and prospects of the mine; and the directors have, therefore, only to reiterate, that they are using the most active means of improving the mineral position—and they are making such changes as, they trust, will be for the benefit of the shareholders.

Tincroft Mining Company—Four Months, ending October, 1847.

Cost—July	£2676	19	3	Balance from last meeting	£1381	2	2
August	2947	17	8	Ores sold in July	2392	8	9
September	2883	3	4	„ August	2873	6	3
October	2729	5	8	„ September	2651	5	6
Directors' attendances	75	0	0	„ October	2693	19	7
London management	40	0	0				
Auditing	4	4	0				
Balance	1412	3	4				
Total	£12,492	2	3	Total	£12,492	2	3

The CHAIRMAN, in opening the proceedings of the day, adverted to the financial affairs of the company, expressing his regret and disappointment at the results being so contrary to the anticipation previously entertained, but which was attributable to the depression of the standard, and not to the diminished productiveness of the mines; taking the average for the years 1846 and 1847, it would be found that the difference in the value of the copper, sold in the latter year, was no less than 1880*l.*, and that of tin, 1340*l.*, which would otherwise have been divisible among the shareholders. He had, within the past six or seven weeks, visited the mines, with the view of ascertaining whether any reduction could be made in the expenses of the establishment or working, and he was happy to say, that such had been, in a measure, effected. Capt. Puckey, who was well deserving the confidence of the directors, as a practical man, and from the position he held at the Fowey Consols, had been instructed to examine and report upon the mine, as also to recommend such course as should henceforth be pursued in prosecuting the workings, whose report would be submitted to the meeting. He might observe that, from the fall in the standard, and the necessity of a considerable outlay being essential, with the object of extending the operations, as recommended by Capt. Puckey, that the company might expect a reduction in the dues; this was a matter of vital importance to the lord and adventurer, as giving encouragement to the latter to prosecute his researches and increase the raisings; while to the lord, the advantage was apparent, and would, as he trusted and believed, be attendant with increased receipts on account of dues. Indeed he (the Chairman) did not, for a moment, doubt but that the contemplated reduction would be readily assented to, inasmuch, that the interests of the lord and adventurer must ever be considered coequal.

Capt. Puckey's report was then read; as also those of Capt. Paull, which are subjoined:—

REPORTS.

Tincroft Mines, Feb. 14.—I presume it will not be necessary or desirable for me to give you a lengthy report of the state and prospects of these mines for your next meeting, as Capt. J. Puckey has so very recently inspected and reported on every part of the mines, and on every department of operation. I need only say, in remarking on that report, that there did exist a difference of opinion between Capt. Puckey and myself, as to the propriety, or otherwise, of sinking Martin's east shaft to the 142 fm. level; but I had the pleasure of an interview with him last Wednesday, and after showing him a sketch of the position of the shafts and lodes, and going into explanation of it, he very readily gave way to my opinion, that the said shaft should be sunk to the 142 fm. level, for the discharge of stuff from the 22 fms. in height of good tin ground, which will be laid open from the said shaft to the eastern boundary (about 90 fms.) I have no doubt but that the work proposed or recommended to be done by Capt. Puckey would ultimately prove for the benefit of the shareholders; and it is for you to consider, whether or no you will lay out 5000*l.* to put the mine in course of working on Dunkin's lode, till you shall have developed the resources of the Druid lode, at Wheal Providence: I cannot recommend it, although I consider it will be judicious to drive a cross-cut south on the cross-course, from Martin's east shaft, in the 142 fm. level, to intersect Dunkin's, and other lodes; and if they be found productive, then there will be an inducement to sink Blight shaft on Dunkin's lode. At Wheal Providence, we have drained the water 13 fms. below the 21 fm. level, have completed plunger-lift, rods, stays, ladders, casing, &c., to the 21 fm. level, and are now preparing to secure the shaft below. I expect by the end of the present month the shaft will be cleared and secured to the bottom, when the cost will ease very considerable, as the pitwork and timber work for the shaft will be complete. I believe we shall require no more pumps than we now have on the mine—this part has considerably augmented our monthly cost. We have now one pitch working in the back of the 12 fm. level at 8*s.*, and another in the bottom of same level at 6*s.* 6*d.*, tribute—I believe the men will make fair wages. The levels are not yet cleared to their extent, as the sumpmen have been so frequently at work in the shaft; so far, however, as yet can be seen, the lode has a very promising appearance—I hope this part will pay its own cost in a short time. I can speak of no particular alteration in the south mine since Capt. Puckey's report, except having discovered a part of Martin's lode (by enlarging the plat in the 120), which has a very promising appearance for copper ore; we are now driving an end west on it, which will lay open tribute ground. We have now 16 men on tutwork stoping the back of the 120 fm. level—these men are raising good tinstuff; indeed, they are the principal support of the tin part of the mine. The tribute department remains stationary; it appears likely that about the same quantity of tin will be raised in future, as for some months past. The 90 west, on Chapple's lode, is producing some good quality ore, as are also the pitches in the back and bottom of the level. The lode in the winze, sinking below the 72, has a very promising appearance, both for tin and copper ores; this lode (Chapple's), will be worked to greater advantage after the winze before alluded to shall have been communicated to the back of the 90. At the north mine, we are doing but very little on tutwork—therefore we cannot expect to make further discoveries; and I regret to say, that just now the prospects are not flattering. The lode in the 109 fm. level, in each end, is small and unproductive, being each near a cross-course. The 90 east is suspended; the 90 west is at present unproductive; we intend to drive south, to cut the south lode, on a cross branch, which we are daily expecting to meet with; beyond this, in the 80, on south lode, we have had a pretty deal of ore. The lode in the 80 east is large, producing fair quality tinstuff. The tributers continue to raise a pretty deal of tin and copper ores from this part of the mine, but at the present low standard for copper ore, and low price for tin, and the high tributes given in consequence, not much profit can be expected. Palmer's part of the mine is now the most productive; we are working it with spirit. The adit from East Crofty is now about 14 fms. from Stainsby's shaft; I hope in less than four months it will be communicated to the shaft, after which the said shaft may be sunk to the ore discovered in East Crofty, and leading into this sett. Though at the present low price of ores no profit can be expected, yet I consider there are chances of ultimate success, and, with good economy, I hope the loss will not be great to develope them.

Feb. 15.—In answer to your letter, in which you referred to the breaking the calciner, I beg to say, that after the calciner which I bought at Godolphin was brought home, and partly fixed in the new house, the old calciner broke so badly that it could not be repaired, and we were, in consequence, obliged to take it out of its place, and then take the one which we were in course of fixing to put into the old house. This occupied nearly three weeks; then we had to get a new one cast to put into the new house altogether, I consider that we were thrown back in our tin sales one month, which we have never recovered. The price of tin having gone down so much in the last nine months, our halvans, which took when the price was up, have (in consequence of the drop in price) done very bad. Some have gone in debt on the subsist, advanced to pay the labourers; two of them (W. Allen and W. Sweet) have left the mine, the former had but a small balance on leaving, the latter some pounds in debt. The bargains are let again at rather higher tributes, but I fear, unless tin advances, the takers will not make fair wages. I expect we shall sample to-morrow about 320 tons of copper ore—I calculate from 80*l.* to 100*l.* worth from Wheal Providence (Druid lode). I hope, and expect the quality from that part of the mines will be constantly on the increase.

[We shall give Capt. Puckey's report entire in our next Journal.]

A PROPRIETOR wished to be informed, up to what period the accounts submitted to the meeting had been made up?—in reply to whom, the CHAIRMAN stated, that the accounts were only to October, as it was found impracticable to carry them further, without assuming figures, and estimating returns. There could be no objection on the part of the directors to afford any, and the most ready, information, which might be required on the part of the shareholders; and, indeed, the accounts and correspondence were, at all times, open for their inspection; but, in submitting accounts at a public meeting, the directors considered it most prudent to confine themselves to facts and figures, and not to indulge in any contemplated or prospective results.

Mr. HODGSON (a director) thought it right to notice a circumstance, which, while the directors did not, in any way, regret, yet would, in some measure, explain certain portions of the report of Capt. Puckey: it appeared that that gentleman had been employed on the part of the lord to inspect the mine, of which the directors were, at the time, in ignorance; however, it was highly satisfactory such should have been the case, as it proved the value set upon Capt. Puckey's abilities. The report might, therefore, be considered rather that of a friendly arbitrator, and advising counsel for the interests of both parties, than otherwise. He would further observe, that some remarks had been made with reference to the remission of the present protecting duty, which would, doubtless, put the Cornish mines in a worse position, and hence the reqnired liberality on the part of the lords of mines. With reference to the returns of tin, there had been an increase in the past year—those of 1846 being 258 tons, while those of 1847 were 298; and, with reference to copper, there was an increase of 50 tons. The falling off in the receipts arose solely from the circumstance adverted to by the chairman.

Mr. FISHER observed that, in his opinion, and that of other shareholders present, the accounts should have been made up to a later date than October, as they could not be considered otherwise than as imperfect as then presented.

The CHAIRMAN, in reply, stated, that the December ores would not be returned until the month of February, and hence the absence of later details; he had only to repeat that they were quite ready to afford any information in their power—the accounts submitted were from February to October.

Mr. YOUNG thought there should be laid before the meeting the accounts, at least, for November and December—in reply to which request, the CHAIRMAN stated, that the November cost was 2642*l.*, and the returns for that month might be taken at 2492*l.*; while the cost of December was 2348*l.*, and the returns might be estimated at about 2050*l.*—thus showing a loss of about 300*l.* on the month.—In reply to a question as to the number of persons employed he (the Chairman) stated, that there were 112 men and 8 boys employed on tutwork, and 178 men and 14 boys on tribute—the average rate of wages of tutworkmen being 5*l.* per month, and that of tributers 57*s.*

Mr. FIELD felt it his duty to object to the accounts, as laid before the meeting. He did not find fault with the directors for having strictly confined themselves to actual receipts; but it must be borne in mind, that the expenditure was not only ascertained, but had been met, and was continually on the increase. He considered that a supplementary report and accounts should be furnished—the outlay was certain, and the produce could be readily ascertained by estimate.

A general conversation ensued on the subject of the proposed supplementary report, or estimate, on future occasions; whereupon, at the suggestion of Mr. Field, the CHAIRMAN caused an addition to be made to the resolution before the meeting, having reference to the receipt and adoption of the report, whereby it was agreed, that henceforth such supplementary report should be prepared.—The accounts for November and December having been referred to Mr. STAINSBY stated, that the directors had received intimation that morning that there were 320 tons sample for sale.

A question having arisen, as to the cost of London management, the same was met in a satisfactory manner by the CHAIRMAN, who stated that, since the establishment of the company, eleven dividends had been paid; and with gross returns, so large as those yielded by the mine, the annual cost of 400*l.* or 500*l.* a year could not be considered very excessive; he could only say, for one, that he should be happy to resign his office if any shareholder would take his post: the explanation of the Chairman being deemed satisfactory, the subject dropped—it being mentioned, in the course of conversation, that the returns were 70,000*l.* a year, while the pay of the directors was 50*l.* each, one-half of the shares of the company being held by that body.

In reply to an inquiry as to any transactions which might have been entered into with the Copper Miners' Company, it was stated, that the ores sold that company had been stopped in transitu; and that, if it should be deemed necessary, an application would be made to the Court.

Mr. FIELD again addressed the meeting, stating that he had only one object in view—that of promoting the interests of the "one and all." Therefore, any observations he might make, must not be considered as of a personal nature, his remarks applying generally—no matter to him of whom the board was composed—entertaining a high opinion of them individually, and with some of whom he was connected in other undertakings; but he must express his opinions openly. The expenses of the London management, he must admit, he did not consider to be objectionable; the directors, or the officers of the company, were not over paid, if they did their duty; but he could not but express his dissatisfaction as to the meagre report which had been presented. He admitted that he was largely interested in mining adventures; at the same time, he must say, he was no miner, or practical man; yet it would appear to him, that the reports of Capts. Paull and Puckey had been passed over—he might say, unnoticed—by the directors, although such involved important points of interest to the adventurers, more especially when an outlay of 5000*l.* was contemplated.

The CHAIRMAN briefly observed, in reply, that he, with his co-directors considered it imprudent to hold out promise, while they were ready to afford any information in their power, and he must apologise for the brevity of the report; he might, however, observe that, had a more lengthened report been made, it might have conveyed a false impression; and, more especially, as, at the moment, it was the desire of the directors to confine themselves to the real state of the mine, and the arrangement of the diminution of the dues not being yet defined. It was true, that any expectations they could hold out to the shareholders would be an inducement to the lord to reduce the dues, but such was considered unnecessary while confidence could be reposed in the directors.

Mr. FIELD wished the directors to have expressed their opinion on the report presented. Why not have said, yes or no?

Mr. HODGSON wished it to be clearly understood, that there was no intention of making a call—it was simply a question as to dividend. By the accounts, it would appear, that there was 1400*l.* in hand; and hence there must be a loss to an equal amount, ere any call would be required.

The CHAIRMAN, in reply to a proprietor, stated, that the value of the machinery might be taken at from 10,000*l.* to 12,000*l.*, there being seven steam-engines on the ground.

After the ordinary general and desultory conversation attending meetings, a vote of thanks was unanimously passed to the chairman and directors, for their able and effective services, when the meeting adjourned.

CARTHEW CONSOLS MINING COMPANY.

A meeting of adventurers was held at the British Mining Offices, 4, Stamp-Office-buildings, Manchester, on Friday, the 11th inst., pursuant to notice.

JOSEPH SMITH, Esq., in the chair.

The CHAIRMAN proceeded to state the objects for which the meeting had been convened—that of receiving a report from Capt. Stephens, who was then present, and also to pay the accounts, and to determine on the rules or regulations under which the mines should be conducted—the same being entered in the cost-book. He (the Chairman) did not wish to intrude his opinions on the meeting, while he could not but express his confidence in the undertaking, and the prospective advantages held out from the reports which had been presented to the shareholders. The several conditions would then be submitted, but, in the meantime, he would request Capt. Stephens to convey to the meeting the present state and prospects of the mine.

Capt. H. F. STEPHENS stated, that the mines were progressing favourably, although the engine had not been erected, or any workings proceeded with, as regards the old Legossick Mine, which formed a part of the sett, except in clearing the adit. A water-wheel had been erected at the Valley shaft, which is in the new sett acquired, with the object of putting it down to a 20 fm. level, which, in driving forward, would give backs to the depth of 50 to 60 fms. from surface; an adit level had been driven, some 50 to 60 fms. on the course of the lode, which was, at the present end, 18 fms. from surface—producing good stones of ore, which were laid on the table—the lode then driving being a caunter lode, and which, in its course, would intersect the old Legossick lode, which was north and south, as also one intermediate, east and west, and had been proved at surface. An engine, 66 in. cylinder, had been purchased, and would be immediately removed to the old mine, from which, when erected, flat-rods would be carried to the lower shaft. At the same time, he (Capt. Stephens) could not contemplate, however, the erection of the engine in a less time than three or four months, so as to render it applicable to the general working of the sett, and putting the old mine in fork. It appeared, that in working the old mine, the workings had been confined to the south side of the slide—it being apprehended that, in cutting through north, so as to take the lode, an ingress of water would be the consequence, and which, it was believed, the engine was not competent to command. The lode in Legossick (being that formerly worked upon), and from which ores, to the amount of 140,000*l.* to 150,000*l.* had been obtained in the former workings, had been worked to a depth of about 92 fms. from surface, the adit being 36 fms., and which adit, when carried on 30 to 35 fms., would intersect the east and west lode, at a depth of 40 fms., and which could be accomplished in the course of three months from the present time—meanwhile, the engine would be in course of erection, and the engine-shaft cleared; workings had been going on in costeaning the main lode, north of the slide, and which had satisfied him that the prospects held out were highly encouraging in that part of the mine; at the same time, it must be remembered, that the other parts of the sett to which he had adverted, were not possessed by the former company, inasmuch that the east and west lode, which had been seen at surface, entered into another lord's land, but could not, at that time, be acquired. He (Captain Stephens), in conclusion, observed, that his confidence in the mine was increased from the recent discoveries, and expressed his conviction as to the advantages which might be contemplated, from the prosecution of the undertaking.

The CHAIRMAN expressed himself as highly satisfied with the report made by Capt. Stephens, and would at once proceed to the immediate question before the meeting—that of determining upon the rules, or regulations, under which the mines were to be managed, so as to be in strict accordance with the Cost-book System. The several rules, which were unanimously adopted, are before us, to which we may refer on another occasion, being, as we consider, if not the *beau ideal*, at least conveying the principle on which the Cost-book System is placed.

A SHAREHOLDER wished to be informed, whether the deed was executed, and also the terms on which the setts were held: he confessed himself as innocent of mining operations, but had full confidence in the parties to whom the management was confided. He considered it, however, desirable, not only for his own satisfaction, but for the confidence of others associated, that such information should be afforded.

The CHAIRMAN, in reply, stated, that the counterpart of the lease was then on the table, and to which he referred. The dues were 1-15th, and the several works were in active operation.

Mr. STAGG, as one largely interested for himself and friends, considered that the report made by Capt. Stephens, and the rules submitted, were highly deserving of their approval; and should be happy to hear from gentlemen present, more conversant with mining operations than himself, any observations which might elucidate information—at the same time, that he expressed himself as highly satisfied.

Mr. TRUSCOTT, having visited the mines, had no hesitation in saying, that the report made by Capt. Stephens, would be found to be fully borne out by the personal inspection and inquiry of the adventurers. He would at once propose, that Mr. Shearman be appointed as purser; which resolution, having been seconded, was carried unanimously.

The several other resolutions, appointing the chief superintendent, agent, &c., were then put and carried.

A general conversation ensued, and thanks having been voted to Mr. English, and to the chairman, the meeting adjourned.

CONDURROW MINING COMPANY.

At a two-monthly meeting of adventurers, held at the mine, on the 8th instt, the accounts were examined and passed, showing balance due to purser las; account, 239*l.* 14s. 10d.; labour cost December and January, 756*l.* 17s. 9d.. merchants' bills, 244*l.* 0s. 7d.; lords' dues, 59*l.* 4s.—together, 1299*l.* 17s. 2d. —Creditor: by copper ore sold, 1010*l.* 14s. 4d.; tin ore sold, 173*l.* 5s. 10d.—leaving balance due purser, 115*l.* 17s. It was then resolved, that in future the accounts of the mine shall be kept at the Miners' Bank, in the name of the adventurers; that, in consequence of a claim for interest on advances made at several periods by Capt. N. Vivian, Messrs. Vawdrey and N. J. Vivian be requested to investigate the claim and report thereon; and that the next meeting of adventurers be held on the second Tuesday in April next.

The following agent's report was read:—

In my last report of Condurrow, given at the meeting of the adventurers, held here on the 14th December last, I stated, as my opinion from the then prospects, that at this meeting we should pay off all the debt on the books; this opinion has not been realised, which may be fairly attributed to two causes.—1. The tin ground did not prove so productive as the agents and myself had anticipated.—2. The late very unfavourable weather has prevented our returning the tin we had broken and sent to surface—consequently there is yet remaining a debt of 115*l.* 17s. The mine has, however, profited in the last two months 123*l.* 17s. 10d., and we hope to have a clear book at an account to be held on the second Tuesday in April. The adventurers out of Cornwall were not so well satisfied with the manner of the last report as with that of the previous one; I shall, therefore, return to the old method. The sump shaft, in course of sinking under the 60 fm. level (on a lode which is very promising and productive of tin in the western end of it, and which is 5 ft. wide), holds out great encouragement. The 60, east of sump, is very promising; has a large lode, 10 in. in width of which is rich and worth 20*l.* per fm. for copore—end driving at 3*l.* per fm. The 60 fm. level, west of shaft, is also promising and large, yielding good stones of tin; it is suspended whilst we are driving a cross-cut northwest of the shaft to cut Llandower lode, and which may require two or three months to accomplish. The 50, east of Pryce's shaft is productive of tin, and driving at 2*l.* 10s. per fm. There is a rise in the back of this level against a winze sinking under the 40 fm. level; when this is holed, we shall immediately resume sinking the winze under the 50, and hole it to the bottom level in the course of two or three months; these communications being made, we shall have plenty of air to enable us to push forward our eastern levels to the old workings, from whence we expect considerable assistance. The lode in the 40, east, is large and promising, but poor. The lode in the 30, east, on Llandower lode, is 5 ft. wide (a very good lode), and yielding 4 tons of ore of fair quality per fm. There is also a rise in the back of this level west of the shaft, and a winze sinking under the 10 upon the same, both productive of copper ore—these, we believe, will be holed in the course of this month, when, if necessary and desirable, two pitches will be set—one on the east,the other on the west of the same. The driving of the 10 fm. level, west, on Llandower lode will be resumed; and at the same time, a winze under the 30, west, will be commenced in a course of ore, and sunk with all expedition. The 10 fm. level, east, on the Llandower lode, is worth 10*l.* per fm., the bottom of this level is productive, and working at 6s. 8d. in 1*l.* The back of the deep adit is as productive as ever; and the end of the same, which is also productive, is driving on to the old workings of Llandower, from which we are getting about 30 tons monthly. The deep adit end is 20 fms. under the last-mentioned workings, and 20 fms. east of the same, so that we believe the intermediate ground will be found profitable. The mine has, certainly, never shown more chances of success than at this moment, and at the wretchedly low price of copper and tin ore we can hold our heads above water; with a reasonable advance in the standard of these metals, we should make a fair profit, whilst at the expense of doing much work which yields no immediate return.

UNITED HILLS MINING COMPANY.

A special general meeting of adventurers was held at the office of the company, Adam's-court, Old Broad-street, on Wednesday last, the 16th inst.

ROBERT CLARKE, Esq., in the chair.

The SECRETARY having read the notice convening the meeting, proceeded to read the resolutions passed at two previous meetings, of the 10th of June and 12th of August, 1847, authorising the directors to take such steps as they might think proper, for the dissolution of the company.

The CHAIRMAN then read the directors' report, as follows:—

REPORT.

The directors, in pursuance of the resolutions of the adjourned annual general meeting, held on the 12th August last, by which they were required and authorised to abandon the mine at the earliest period, took immediate steps to discontinue the workings as far as was practicable with existing engagements, and were proceeding to draw up the pumps at the deeper levels, to prevent their being lost for the company through the rising of the water, when the directors received an intimation from the Duchy of Cornwall (the lords of the sett), requiring the full workings to be continued, inasmuch as the Duchy contended that it was not competent to the company to abandon the covenants in the setts, compelling them fully to work the mines at all hazards. In this interpretation of the purport of the setts, the directors could not agree; and, in reply, pointed out that the working of the mine was prevented by inevitable accident (the stoppage of an adjoining mine, South Towan), a matter quite beyond the control of this company; and the directors invited the officers of the Duchy to ascertain the fact by an actual inspection of the mine. This inspection took place, and the Duchy was convinced the mines could only be worked to advantage in conjunction with the South Towan Mine. The Duchy, however, adhered to their opinion, that the mine of this company could not legally be abandoned, and they altogether forbade the withdrawal of the machinery, and the stoppage of the mine. Under these circumstances, the directors thought it advisable, in order to avoid litigation and expense to the company, to open a negociation with the Duchy for the surrender to them of the setts held under the Duchy—viz.: United Hills, Wheal Charles, and Wheal Fanny setts—and the transfer of the setts held under the representatives of the late John Basset, Esq., of that part of United Hills which was not Duchy, and of Wheal Sparrow. The directors are happy to say, that after much negociation and some delay, the arrangement for both these objects was effected with the Duchy, who also accepted a surrender of the South Towan sett for other parties. On the 13th November last, accordingly, an agreement was entered into between your directors, of the one part, and James Robert Gardiner, Esq., on behalf of the Duchy, for the surrender to the Duchy of the setts held under them, and the transfer of the setts belonging to this company on the terms of the Duchy, taking at a valuation the engine, machinery, and apparatus of all the mines, paying for the same as machinery to be removed, deducting the expense of removal; and also for taking, at a like valuation, the halvans, on the terms of paying for half the value of the halvans, less the price of returning the same, and the directors were obliged to allow 12 months for the payment of the purchase-money. The directors cannot but congratulate the shareholders on the effecting of such arrangement; for, although at first sight the terms of purchase may appear sufficiently onerous to the company, the directors are satisfied much more will be realised by that arrangement than on a removal and forced sale, the only other mode practicable. First, because the removal of the machinery would have been resisted, and the subject of litigation; and next, because much of the machinery being adapted peculiarly to the United Hills Mine, would have been unsaleable elsewhere—whilst a ready sale, under the then peculiar pressure of the times, would have been impracticable; and, further, in case of abandoning the mines, the whole halvans would have been lost to the company, whereas half their value will, by this arrangement, be secured to the company. One of the principal objects of this meeting is to ratify this agreement, and to authorise the directors to take such further steps as may be desirable to carry the agreement into effect. Not a doubt can be entertained but that it is for the interest of the company that the agreement should be fully carried out. The directors, in order to procure such agreement, were obliged to engage, in regard to this being a scrip company, on payment of the amount of the valuation, to guarantee the Duchy, and the directors can only do this on the terms of full powers being given them in the matter.

To effect the arrangement with the Duchy, the directors were compelled to pump and drain the mines, until their delivery over to the Duchy in an efficient working state; and this subjected the directors to the necessity of making large pecuniary advances for the company out of their private resources, and for which the directors are now creditors of the company. The panic having followed close upon the meeting of the 12th August last, the ordinary channels of advance on the ore bills were closed against the company, and this, unfortunately, at a time when the monthly loss from the workings was great. The directors regret to state that, from the great expense from the pumping and draining of the mine during the latter months of the working, a very considerable addition has been made to the debts of the mine; and the statement of the debts of the company, only just received from the purser of the mine, shows such debts to be much more considerable than your directors had been led to expect; and the directors further regret much to have to communicate the fact, that the amount of the valuation is insufficient fully to satisfy the demands upon the mine; and that there will be a deficit, taking the necessary expenses of winding-up into account, of about 2000*l.*, which sum will have to be distributed among the shareholders, *pro rata*, according to their shares.

The shareholders will see the necessity of their at once discharging what may be apportioned to each share—for, by payment alone, can funds be raised to clear the debts of the mine; and each shareholder is liable to be sued by the creditors of the mine for the full amount of their debts; and the directors could only prevent this, by having recourse to the provisions of the Act of Parliament, for winding up joint-stock companies, by which the liability of each shareholder would be ascertained, and the amount be summarily recoverable from each. It will be obvious to all, that either this, or proceedings, would necessarily add much to the debts of the company, and the sums payable by each shareholder. The directors have had an onerous and difficult duty to discharge, and have discharged it to the best of their ability. Their best attention will be given to winding up the affairs of the company, at as little expense as possible; and, finally, the directors rely confidently on the body of shareholders to co-operate with them in clearing off the debts of the mine, and finally winding up this unfortunate adventure.

The following resolutions, having been moved and seconded, were passed unanimously:—

That the report be received, and be entered among the minutes of the meeting; and that the said report, and the steps taken, as therein mentioned, for effectuating the above objects, and particularly the agreement therein referred to, dated the 13th of day Nov., 1847, and made between Michael Williams, Robert Clarke, and Isaac Henry Tyas, Esqs., the directors of this company, of the one part, and James Robert Gardiner, Esq., of the the other part, be fully confirmed.

That the directors are requested and authorised, by the meeting, to take such further steps, as they shall think proper, for effectuating the above objects, and for carrying into execution the aforesaid agreement, and for closing all the accounts of the company, and preparing for a final dissolution of the company.

That the directors are further requested and authorised to call, as soon as the accounts of the company are closed, and they shall think proper, a special general meeting of the shareholders, for receiving the final report of the directors, and for dissolving the company.

WEST WHEAL TREASURY MINING COMPANY.

At a meeting of adventurers, held at the mine, on Monday, the 14th inst., the accounts for four months ending December, were produced, showing:—By tin sold, 258*l.* 3s. 9d.; copper ditto, 1322*l.* 10s. 10d. (less 1-18th dues, 87*l.* 16s. 8d.)=1492*l.* 18s. 4d.—To labour cost for Sept., Oct., Nov., and Dec., 978*l.* 3s. 8d.; merchants' bills for ditto, 454*l.* 12s. 2d.=1427*l.* 15s. 5d.—leaving balance of profit, 65*l.* 2s. 11d.—The following report was read to the meeting:—

GENTLEMEN.—The result of the four months' working, ending with December last, has confirmed the expectation held out in my report of the 16th November, wherein it was anticipated that the sales of copper and tin would meet the expenditure to that period. It may be proper to observe, that all the cutwork operations necessary to the effectual and vigorous prosecution of the mine have been carried out, and there has been, and still will be, a consequent increase in the monthly expenditure; but the annexed statement of the accounts will furnish you with the particulars, showing a balance in favour of the adventurers of 45*l.* 10s. 3d., which will be slightly increased at the next audit. This, when contrasted with the past calls on the adventurers, will be regarded as a pleasing feature in the progress of the workings; especially when it is considered, that the development of the mine in the past three months has been more satisfactory than at any previous period, inasmuch as the Lannack Moor and Engine lodes have been more permanent in their produce, and have left ore ground in the backs of the 50, 40, and 30 fm. levels, which, at an improved standard, might be advantageously taken away; and we have, in expectation of an advance, confined the raising of our ore to such an amount as will meet the current expenses of the mine. Since the last report, we have sunk the engine-shaft from the 50 to the 60 fm. level, and on Friday last we intersected the lode in the latter depth, and have driven a few feet east and west of the shaft, which, when compared with the 50 fathom level, shows a decided improvement in the value and character of the lode.—THOS. RICHARDS.

WHEAL COLLIER MINE.

At a meeting of adventurers, held at the Guildhall, Tavistock, on Thursday, the 10 inst., DAVID KELLAWAY, Esq., in the chair,

The accounts and vouchers to the end of January having been examined and found correct, were passed and allowed; and the manager's report, read at the meeting, being satisfactory, was adopted, and a call of 5s. per share was made, in order to carry out the proposed operations. The resignation by Edmund Turner of four shares, Josiah Sims of four shares, Henry George of one share, and W. James of two shares, was accepted.—The following report was read to the meeting:—

Tavistock, Feb. 9.—Since the last meeting, our operations have been principally directed to the great flat course, on the north side of the western end, which contains ore stuff, and presents a very kindly appearance, and of which many fathoms have been broken, but the ore therein can only be rendered marketable by its being stamped. No change for the better having taken place at this point, we are now driving on the lode, in the south of the western end, which is (particularly towards the bottom) about 18 in. wide, and produces ore work fit to save; indeed, it is looking very promising at present. We sampled a few days ago, at Morwelham, about a ton of rich ore, which had been picked out from ore stuff, saved out previously to the last meeting for sampling, but the remainder would not pay for manual labour only in dressing. We have been as economical as possible in the expenditure lately, in consequence of the depression of the times. I, however, recommend you to make a call of 5s. per share, in order that the driving of the level west may be continued.—JOHN FAULL.

WHEAL COMFORT.—Book in debt, end of Sept., 193*l.* 8s.; labour cost to Jan., inclusive, 978*l.* 10s 2d.; merchants' bills, 417*l.* 5s. 4d.=1589*l.* 8s. 6d.—Ores sold, less dues, 1343*l.* 14s. 2d.; sundry receipts, 34*l.* 9s. 8d.=1378*l.* 3s. 10d. —leaving book in debt, 210*l.* 19s. 8d.—To meet the above, there are ore bills received for 900*l.*, and also ore to be sold on Thursday next, in amount about 300*l.*, the whole having been raised in the months charged above; besides 100 tons of ore on the mine, ready for sale. The mine is improving daily.—Feb 15.

WHEAL BASSET.—At a meeting of adventurers, held last week, on the mine, the accounts for Nov. and Dec. were passed, as follows:—To balance at last account, 649*l.* 1s. 8d.; costs and merchants' bills, 1628*l.* 9s. 10d. =2277*l.* 11s. 6d. —Ores sold (less dues), 1766*l.* 3s. 6d.: balance due to purser, 511*l.* 8s.

CARADON CONSOLS MINE.

SIR,—An article appeared in your paper of Saturday last, signed "Sextus," reflecting upon the agents of the above mine for not having declared a dividend on sale of the materials. I would remark, in reply, that had your anonymous correspondent adopted the usual course, and applied to the purser for information, he might have known the cause of delay. The materials were sold to different mining companies—the usual credit of two months being given for payment; but, unfortunately, for the interest of the shareholders, certain accounts still remain unpaid, although every means, on my part, short of law proceedings, have been resorted to. I beg to inform "Sextus," that all sums received on account of this mine, are deposited in the East Cornwall Bank, Liskeard, to the credit of the company.—THOMAS KITTOW: Purser, *Feb.* 17.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

HARROWBARROW OLD MINE.—The whole of this valuable mine sett and materials is sold. The materials fetched a good price, much more than was calculated on, owing, I suppose, to their superior quality. One lot—viz., four of Brunton's patent belts, which I have so many times seen advertised as valuable for cleansing tin, or separating ores from its dross—sold at a great sacrifice. The adventurers' interest in the sett was most nobly bid for, and I think from 25 to 30 biddings, each party standing their ground like men. At length it was knocked down to the resident agent, who appeared to be quite master of his work.

HERODSFOOT.—They have cut into the lode in the 94, and, as far as they have gone, find it leady and highly favourable. The 72 south is cut very good.

NORTH WHEAL ROBERT.—Having attended a meeting yesterday, whereat the working of this mine was suspended, I beg to send you the under-mentioned report, for the perusal of the shareholders. When I came into this mine I liked the appearance of the stuff, and the backs of the lode on the top of the hill, and when we drew up the pumps out of the water, they had a similar appearance to those from a rich copper mine, which led me to believe there was plenty of copper below. In the eastern part of the sett there was a good bunch of ores; and, from the cleavage of the strata dipping east, I expected the ores on the top of the hill would dip east also, and might unite with the ores below; under those circumstances, after a careful examination, I considered that part of the mine our best place to commence operations. In driving our bottom level, and working away the ores over, I find the dip of the ores is west and not east, as I expected. We have driven our bottom level 9 fms. west from the winze, without ores—still it is possible the same shoot of ores may come into the end further west; we have broken about 10 tons of ores from the bunch, and there is now a lode 2½ ft. wide, with good stones of ore in it for 2 fms. high, going west, where we may expect to meet with the ores from the top of the hill, and where our attention was first directed. Our bottom level is 100 fms. west of the eastern boundary, leaving 110 fms. more to our western shaft, which may be accomplished by driving two levels, and sinking a winze or two without a shaft; we should then have a mine 57 fms. deep on the top of the hill, and all the expense of the engine would not exceed 2*l.* per month.

TREVELYAN MINES.—The 18 fm. level still looks well here.

WHEAL FRANCO.—The lode recently cut in the 47 fm. level, is very much improved; indeed, it is a fine looking lode. We cannot as yet ascertain its value per fm., as we have not yet cut the south wall, it being a very large lode.

WHEAL TREHANE.—I have just been at Trehane, and find the lode is cut in the 45 fm. level; they have cut in it 2 ft., but have not yet got through it. From what I could see, I should think it will produce about 8 cwts. of lead ore per fm. The underlie, from 35 to 45, is about 9 inches in a fathom. You may judge from this, that Trehane is not so near finished as some would have it.

OLD DELABOLE SLATE COMPANY.—The half-yearly meeting of this company was held at the secretary's office, at Plymouth, on Monday last, when the past operations and prospects of the company were, we understand, of a very pleasing nature. The usual dividend was declared.

PLYMOUTH WHEAL YEOLAND.—The 12 fm. level has been driven east from the engine-shaft 4 fms. 3 ft. The first part of this ground was discovered by a branch, which at its junction with the lode was mixed with killas. The main lode has been followed, and is now exceedingly good. The level, to the west of the shaft, has been driven 5 fms. The lode has been throughout better in the bottom than in the backs, and the end is as good as anything heretofore seen in the mine. The new south lode has been sunk upon, and continues good. The stamps were set to work on Tuesday morning.

WHEAL CALSTOCK.—The quantity of ore on this mine is increasing.

KIT HILL.—This mine is stopped, in consequence of the men not having been paid their wages. They have some tin ready for the smelting-house, but not enough to pay the deposits.—*Plymouth Journal.*

ST. JOHN DEL REY MINING COMPANY.—Mention was made in our last week's publication, of the fact of the shareholders of the St. John del Rey Mining Company being placed in a very embarrassing position by the expressed determination of the proprietors of the adjoining land to cut off the water-courses, or leats; and our correspondent has now furnished some further particulars. It appears that, by the law of Brazil, water, when once granted for mining purposes, cannot be taken away except for mining purposes; but, owing to the unpopularity of the management at Morro Velho, some of the proprietors of the Bella Fama, the adjoining estate, are determined to do this; and, unless immediate steps are taken by the executive of the company at home to remove the parties who have occasioned the unpleasant feeling, or adopt some other course to avert the threatened step, the most serious consequences may ensue; for it appears to be the law of Brazil, also, that, if only one proprietor of the water determines to use it for his own mining purposes, he can compel the other proprietors to withdraw it from other parties, and the water in question is held in many shares. The parties who have just returned from Brazil, declare that the greatest discord and confusion reigns at Morro Velho. The English are fined heavily for the slightest irregularity; and, if they do not attend church service, are mulcted at the discretion of the superintendent, who, it is stated, so far from making his immediate subordinates set a good example, allows them to play billiards, and attend dances, in the afternoon of the sabbath. Many of the European miners have come home in disgust, and it will occasion a considerable outlay on the part of the company to replace them. The slaves are in a state of revolt from the constant flogging which is going on, and several have been punished with such severity as to be unable to go to work again for weeks. There may, of course, be some exaggeration in the accounts given by the parties in question, but our correspondent remarks that there is evidently mismanagement at Morro Velho, and this it is the duty of the directors promptly to institute a searching investigation into the matter, more especially as the miners and other parties who have just come home are now in London.

QUARRYING MACHINE.—We took occasion, a few weeks ago, to notice a new stone drilling machine, and that it would shortly be tested upon some of the quarries in the neighbourhood of Newcastle. We can now state the result of a trial made upon the quarry of Mr. R. Cail, near Gateshead. The machine was put in motion by four men, and worked for an hour and-a-half, when they attained a depth of 8 ft. of 4-in. gauge: the hole was then charged with 19 lbs. of powder, and the discharge produced the removal of 5400 cubic ft. of rock. We understand that it is likely to be very greatly patronised by quarry owners, from the rapidity with which it does its work.—*Newcastle Chronicle.*

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning, Eleven o'clock.

Bank Stock, 9 per Cent., 200 1½	Belgian Bonds, 4½ per Cent.,90
3 per Cent. Reduced ANN., 90 89¾	Dutch, 2½ per Cent., 54⅝
3 per Cent. Consols Ann., 90 89⅞	Brazilian, 5 per Cents., 85½
3 per Cent. Annuities, —	Chilian, 6 per Cents., 93
3½ per Cent. Ann., 91 90½	Mexican, 5 per Cents., 19½ 18⅞
Long Annuities, 9 1-16	Spanish, 5 per Centa., 20½
India Stock, 10½ per Cent., 243 2	Ditto 3 per Cents., 32 ⅜
3 per Cent. Consols for Acc., 89½ ⅝	Portuguese, 5 per Cents., 81 80
Exchequer Bills, 1000*l.* 3d., 29 pm.	Russian, 5 per Cents., 111 ¼

MINES.—Although the transactions in the mining share market have not been many, still we cannot say the business has been very limited. We find buyers are not scarce, but sellers generally are not disposed to conform to lower quotations.

The high position which Devon Great Consols continues to maintain, has produced numerous inquiries for these shares. A few have changed hands during the week; whilst, we understand, a treaty for a large number is in progress.

Several shares in Treviskey and Barrier have been done, and buyers are still in the market, but they have not realised last week's quotation.

Herodsfoot, Tavy Consols, Great Michell Consols, and South Wheal Basset, are among the mines represented to have improved since our last.

We learn, from an authentic source, that a new firm, headed by an influential and wealthy baronet, well known in the iron market, is about entering the smelting department, upon independent principles. We congratulate the adventurers and miners on the prospect before them, and trust that many months will not elapse, before they will receive a fair remuneration for their capital and labour.

An esteemed correspondent, in his letter, "Smelters *v.* Miners," of last week, humourously remarked on our flowery language, and our inertness in not pointing out a *remedy* for the great evil which existed; and, at the same time, suggests the possibility of establishing a new smelting company; but we fear the practicability of the measure, as proposed by him, would not be one of so *flowery* a path as he anticipates. A similar notion was entertained by ourselves, having an article in manuscript by us, which we, a fortnight since, intended to lay before our friends.

Shares in the following mines have changed hands during the week—viz.: Devon Great Consols, Franco, Tavy Consols, Wheal Williams, Stray Park, Trehane, South Tolgus, Herodsfoot, West Wheal Maria, Trethellan, South Wheal Trelawney, Devon and Courtenay, &c.

In the foreign mines we find but few transactions have taken place—St. John del Rey, Australian, and Bolanos, have been done.

RAILWAYS.—The progress of the railway meetings, during the week, has produced very little effect upon prices. Brighton shares remain nearly stationary—the principal line directly connected with the metropolis—whose accounts have been decided. There has been no increase in the general business; but where there has been any movement in prices, it has been rather tending towards improvement.

MEETINGS.—LONDON, BRIGHTON, AND SOUTH COAST: adjourned meeting. After a long discussion, the appointment of a committee of seven shareholders, holding 40 shares, was carried; the report confirmed—so much as had reference to the dividend—the borrowing of 176,598*l.*, and the conversion of the 15ths into stock. A dividend, at the rate of 1*l.* per 50*l.* share, for the half-year, was then formally declared. The meeting was then adjourned until the 30th March.—CEYLON: general meeting. The secretary read the report, to the effect, that, since the last meeting, the company had been completely registered. Adjourned to 10th April, to await the decision of the Ceylon Government.—BARBADOES: adjourned meeting, at which it was recommended that the board should be reduced to five members, and that the board in the colony should be abolished, and no further calls made, without the concurrence of a meeting of shareholders. After considerable discussion, the report was received, and ordered to be entered in the minutes —EAST ANGLIAN: ordinary meeting. The statement of accounts showed the total receipts to be 1066,985*l.* 1s. 2d.; and the expenditure, 1,061,741*l.* 11s. 2d.—leaving a balance of 4243*l.* 10s. The line is expected to be opened throughout early in the summer; resolutions, with respect to the creation of new shares, were passed.—LONDON AND SOUTH WESTERN: half-yearly meeting. The report showed a balance applicable to dividend of 104,479*l.* 11s. 2d. Several formal resolutions were passed, declaring the dividend of 8 per cent. payable on the 1st March; and that the 40*l.* shares be altered to 50*l.*—NEW SOUTH-WESTERN STEAM NAVIGATION COMPANY: half-yearly meeting. There is a balance of 2161*l.* 10s. 11d. applicable to a dividend of 5 per cent., which was agreed to.—GREAT WESTERN: half-yearly meeting. The revenue receipts, to Dec. 31st, showed a balance of 324,011*l.* 1s. 4d.; and, after a polling, which continued until 6 o'clock on Thursday evening, and resumed yesterday morning at 10 o'clock until 2 in the afternoon, the proprietors met by adjournment, when the chairman announced the numbers to be for the dividend of 3½ per cent. in the half-year, 3340; and for the 4 per cent. dividend, 1211: making a majority for the directors' proposition of 2129; the reduced dividend was accordingly declared amidst applause.—TAFF VALE: half-yearly meeting. The directors recommended that a dividend of 4*l.* per share should be declared on each old share—thus making a dividend of 8*l.* per cent. on the whole amount paid.—NEWRY, WARRENPOINT, AND ROSTREVAR RAILWAY: the fourth ordinary general meeting took place yesterday—Lord Newry in the chair.—The secretary read the report of the directors, and the balance-sheet, to the 1st inst., from which it appeared, that the amount in the hands of the bankers of the company was 1245*l.* 3s. 10d.; and that there was a great arrear in the payment of the calls. A resolution was carried, calling upon the directors to press the payment of those in arrear, and giving them power, in case of their non-payment, to institute legal proceedings to compel them.

HULL, THURSDAY.—The gloom to which we alluded in our last, as hanging over the share market, has continued during the week; nor do we expect to see much improvement until after the meetings of the leading companies shall have taken place. Darwens, buyers at 10*l.*, sellers at 9¾*l.*; North British, flat; North Staffords, the turn lower

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	*Traffic Returns.* 1848	1847
Arbroath and Forfar	16	£179,939	26	4 p.c.	—	211
Birkenhead, Lancashire, & Chesh.	15	706,793	38½	—	569	527
Dublin and Drogheda	35	753,655	52	3½	669	678
Dublin and Kingstown	7½	473,282	—	7	625	531
Dundee, Perth, & Aberdeen June.	47½	285,745	30	6	684	284
East Anglian (Lynn to Ely)	26½	908,893	11½	—	426	—
East Lancashire	24	1,207,490	21½	—	918	568
Eastern Counties	202½	7,698,370	15¼	5	10797	8071
Eastern Union	50	979,926	45	—	1052	851
Edinburgh and Glasgow	53	2,375,745	42	6	2917	3141
Edinburgh and Northern	29	953,207	21	—	694	—
Glasgow, Paisley, and Ayr	64¼	1,890,547	72	7	1773	1866
Glasgow, Paisley, & Greenock	23	838,961	17½	3	836	869
Gt. Southern & Western, Ireland	110½	1,876,326	24½	—	1614	996
Great Western	269⅝	10,630,763	102	8	16295	15902
Kendal and Windermere	10½	147,001	23	—	91	—
Lancaster and Carlisle	70	1,291,913	53	—	1111	550
Lancashire and Yorkshire	92½	6,807,314	88½	7	7888	7872
London and North Western	428	20,010,467	144	9	34178	31918
London and Blackwall	4	1,146,289	5⅝	⅝	712	658
London, Brighton, & South Coast	152½	5,659,189	36½	4	6003	5334
London and South-Western	186	5,836,132	52	9	6296	5800
Londonderry and Enniskillen	14½	160,013	16	—	121	—
Manchester, Sheffield, & Lincolnsh.	46	2,078,135	80	5	2052	1659
Maryport and Carlisle	28	424,417	—	3	550	587
Midland Company	402½	8,658,604	115	7	17884	16698
Midland Great Western (Irish)	36½	583,776	—	—	893	—
Newcastle and Carlisle	65	1,184,080	117	6	1856	1784
Norfolk	81½	1,375,633	83	6	1747	1194
North British	78	2,514,150	26½	5	1725	1343
Shrewsbury and Chester	17	591,158	17	—	473	263
South Devon	29	1,339,360	23	—	680	431
South-Eastern	165½	6,398,218	31½	6	6369	5940
Taff Vale	38	785,607	—	5½	1894	1357
Ulster	25	646,211	52	6	582	719
Whitehaven Junction	12	130,000	—	4½	158	—
York, Newcastle, & Berwick	236½	3,685,102	34½	9	9720	8418
York and North Midland	230½	3,196,369	75	10	5690	5121
FOREIGN RAILWAYS.						
Amiens and Boulogne	68½	573,338	13⅛	4	906	—
Antwerp to Ghent (monthly)	31	—	—	—	1700	—
Belgian ditto	—	—	—	—	46247	43741
Dutch Rhenish	57½	—	1½	—	794	220
Northern of France	211	2,000,000	11½	4	12146	8200
Orleans to Bourges (Central)	107½	—	—	—	2219	—
Orleans to Tours	72	600,000	—	5	2929	2315
Paris and Orleans	82	2,011,720	47½	12½	6987	6420
Paris and Rouen	85	2,082,916	33⅜	9½	5540	6004
Rouen and Havre	59½	—	10½	4	1961	—
Strasburgh and Basle (monthly)	88	—	6	1½	5892	—
West Flanders ..... (ditto)	—	—	1½	—	964	—

Total earnings for last week, £148,199, being an increase of £13,635 over last year.

SHROPSHIRE IRON-WORKS.—We regret to hear that the Coalbrook Dale Old Park, and Stirchley Works, are nearly standing still—the colliers, miners, and puddlers, refusing to return to their work at the reduced wages.

Fatal Accident.—We regret to learn that, by the upsetting of a boat at Rio de Janeiro, on the 23d of Oct. last, a Cornishman, named William Tyrrell, was unfortunately drowned. He had been, for many years, employed at the Gongo Soco Mines, and was on his way home. We believe he was a native of Blackwater, but had resided several years at Penryn. He was a very sober man, and greatly esteemed by his former employers.

Merthyr.—A man, named J. Davies, was seriously hurt in one of the Cwmcannad pits in the early part of this week.

Pontypool.—A collier, named Thomas Lewis, met with a severe accident some few days since, in a level belonging to Mr. Vipond, at the Varteg. We regret to state, that the injuries were of such a nature that the poor fellow expired on Sunday last.—Verdict, "Accidental Death."

Accident at Aberdare.—Two brothers, named John and William Jones, working in the river level, near Abernant, were severely hurt by a fall of coal on Tuesday last. One of them was not expected to live.—*Monmouthshire Merlin.*

LATEST CURRENT PRICES OF METALS.

LONDON, FEBRUARY 18, 1848.

	£	s.	£	s.	d.
Iron—Bar s..Wales..*ton*	0	0—	7	5	0
„ ..London ..	0	0—	8	10	0
Nail rods „	0	0—	9	5	0
Hoop(Staf.) „	0	0—10	10	0	
Sheet „ „	0	0—11	10	0	
Bars „ „	9	10—10	0	0	
Welsh cold-blast foundry pig ..	4	0—	4	10	0
Scotch pig *b*, Clyde	2	11—	2	12	0
Rails, average	7	15—	8	0	0
Chairs	0	0 —	5	5	0
Russian, CCND *c*..	17	10—18	0	0	
„ PSI	0	0—	——		
„ Gourieff	0	0—	——		
„ Archangel	0	0—13	10	0	
Swedish *d*,on the spot	0	0—11	5	0	
„ Steel, fagt.	0	0—16	5	0	
„ „ kegse	0	0—14	0	0	
Copper—Tile *f*	0	0—92	0	0	
Tough cake	0	0—93	0	0	
Best selected	0	0..96	0	0	
Ordin. sheets, *lb*...	0	0— 0	10	½	
Copper—Ord. bottoms ..	0	0—	0	11	
Yellow Metal&Sheathing	0	0—	0	0	8½
Tin—Com. blocks *g*...*cwt.*	0	0—	4	2	0
„ bars	0	0—	4	3	0
Refined	0	0—	4	6	0
Straits *h*	0	0—	3	16	0
Banca	0	0—	4	4	0
Tin-Plates—*Ch.,*IC*t, box*	1	8—	1	10	0
„ IX ...	1	14—	1	16	0
Coke, IC	1	4 6	1	5	0
„ IX	1	10 6	1	11	0
Lead—Sheet *k* .....*ton*	0	0—19	0	0	
Pig, refined	18	15—19	0	0	
„ common	17	10—17	15	0	
„ Spanish, in bd.	0	0—17	0	0	
Red.....	0	0—19	10	0	
Dry White.....	0	0—24	0	0	
Shot (Patent).....	0	0—20	10	0	
Spelter—(Cake)*l* on spot	0	0—19	5	0	
„ for arrival	0	0—19	0	0	
Zinc—(Sheet) *m* export.*	26	0—27	0	0	
Quicksilver *n* .....*lb.*	0	0— 0	4	6	

[FROM OUR CORRESPONDENTS.]

Iron.—No alteration as to prices since last *Mining Journal*, but some of the men in Staffordshire have returned to work, and it is expected those still out on strike will soon follow them.

Tin, which was rather unsettled last week, is continued at the old prices, and no immediate change looked for.

Tin-Plates are more in request as regards coke quality, the price of which is about 1s. per box higher: for charcoal scarcely any demand.

Spelter and other metals very dull, and no transactions to notice.

GLASGOW.—Since date of our last respects, pig-iron has slightly advanced in price, and the tendancy is still upwards. There is an improved feeling in the trade, and higher prices are anticipated as the season advances. The price of mixed Nos. may, to-day, be quoted at 51s., cash.—*Feb.* 17.

THE IRON TRADE.—From the most authentic accounts received yesterday from the mining districts, we are led to anticipate a speedy and satisfactory termination to the strike which has recently prevailed among the miners of South Staffordshire, the workmen returning to their employment at the reduced wages, as originally proposed by the masters. Whilst the late proceedings in Wales and Scotland leave no other course than this open to the Staffordshire miners, it is but justice to notice the perfect tranquility which they have maintained during a suspension of their customary labour, which cannot, it is computed, have been attended with less loss to each puddler's family than about 14*l.* Stocks are low; and although prices remain stationary at present, it is fully expected that iron will find a brisk sale. In different districts, where several furnaces are again at work, the men employed, previously to their being engaged at the reduced prices, have been called upon to discontinue all connection with the union, from the funds of which the members, during the strike, had been chiefly maintained. A vast proportion of the men, however, had not joined the union, and, consequently, themselves and families were reduced, in some instances, to the lowest ebb of poverty and distress. These gloomy appearances promise, in a few days, to be superseded by a return of active prosperity.—*Birmingham Advertiser.*

Cwmavon Works.—It will be in the recollection of our readers that in the month of October last, a great reduction in wages took place at these works—about a month since a notice was given to the men of a further reduction. The expiration of the last notice fell on Saturday last. Early that morning it was ascertained that the founders, fitters, and others occupied at the furnace, had struck for an advance. The result is, that the whole of the furnaces, six in number, have been since stopped, this being a kind of a signal that the other branches will soon follow in the wake. The whole of the colliers and miners to a man struck on Monday morning; and the whole of those extensive works are consequently at a complete stand. A deputation from the founders and colliers proceeded to the office on Monday; but in the absence, unfortunately, of the manager, J. R. Guppy, Esq., no kind of arrangement could be effected. Should this unfortunate state of affairs prevail much longer, it will be impossible to anticipate the result. Already we are informed that the cry for bread has been heard to emanate from the abodes of some families—the natural consequences of the combined causes, low wages and improvidence. We hope, for the sake of employers, workmen, and others, such as shopkeepers, and innkeepers, who are mainly dependent on those works, a fair and satisfactory adjustment of the great question may take place speedily. This is the ardent desire and prayer of every sober and well-thinking inhabitant of the neighbourhood.—*Swansea Herald.*

The Garth Works, Maesteg.—These works, the operations of which, for the last few months, have been considerably curtailed in every department, will, it is said, shortly resume their wonted activity and bustle. A recent change in the proprietary and management of the works appears to be this stimulus; and from the active and business-like habits of the present manager, G. H. Bond, Esq., we are disposed to augur favourably of the future prosperity of these works—the erection of which, including the lofty engine-house, with the beautiful new engine (made on a principle altogether novel in this country, by the Messrs. Davies, of Tipton), three blast furnaces, the ingeniously-constructed hydraulic apparatus, invented by Mr. L. A. Williams, the company's mining engineer, for the purposes of conveying the different materials to the tops of the furnaces, with a spacious cast-house, the latter in a forward state of completion, cost the company, we are informed, from 12,000*l.* to 13,000*l.* No expense, in short, seems to have been spared in order to render the works both efficient and profitable, and in every way worthy the enterprising spirit of this directory. On Easter Monday, 1847, the first furnace was blown in—a deputation, appointed by the company, being present on the occasion, and the usual demonstrations, such as the firing of cannon, &c., were made; nor was there any apparent deficiency in the supply of Taffy's favourite and exhilarating beverage—*curw da.* The mineral department, in the meantime, was vigorously proceeded with—a large quantity of black-band being required for consumption at the Cefncwsc Works, and in which mineral the company's property here seems to abound; these operations were preparatory, also, to the use of the two other furnaces at Garth, orders for the blowing in of which were daily and anxiously looked for by all who felt interested in the prosperity of Cwm Llynfi. The mutability of all merely human affairs has, however, seldom been more strikingly illustrated, than when intelligence reached this valley that the monetary world had been seized with a certain "tightness in the chest." The news travelled with electric rapidity, though the intelligence scarcely preceded the malady itself; the one, in fact, appeared to accompany the other; and our hopes, in common with those of a large portion of the civilised world, were for a time blighted. "Hope," indeed, "had told a flattering tale." We listened, believed, and were deceived, and gave vent to our feelings, and, having done so, we retired to the peaceful obscurity of our own fireside, from which a slight change in the commercial atmosphere has induced us once more to emerge, despite the many "Perils that environ
—*Ibid.* The man who meddles with cold iron."

NEW PATENTS.

The Right Hon. Thomas, Earl of Dundonald, Vice-Admiral of the White squadron of her Majesty's fleet, Knight Grand Cross of the Most Hon. Order of the Bath, for improvements in marine steam-boilers, and apparatus connected therewith.

H. Black, Nottingham, lace-maker, for improvements in evaporation.

J. Watson, merchant, and E. Cart, gentleman, both of Hull, for improvements in the manufacture of glass.

J. T. Chance, and E. Chance, Birmingham, for improvements in furnaces, and in the manufacture of glass.

J. Weston, Portland-town, Middlesex, machinist, for certain improvements in obtaining and applying motive power.

J. B. Haxby, Dewsbury, for improvements in making communications between the guards, engineers, and other servants in charge of railway carriages, and also between the passengers and such servants, which improvements are applicable generally where speedy and certain communications are required.

W. Tottie, Crosby-square, London, merchant, for improvements in distilling. (Being a communication.)—*Mechanics' Magazine.*

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£20
20,000	British North American	50	6	43½
20,000	Colonial	25	5	9
—	Commercial of London	20	6	20 22
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	16
30,000	London and Westminster	20	6	25½
10,000	National Provincial of England	35	5	36
20,000	National of Ireland	22½	5	17½
20,000	Provincial of Ireland	25	8	43
4,000	Ditto New	10	8	15 16
20,000	Union of Australia	25	6	23½
10,000	Ditto New	2½	6	2½ 2¾
60,000	Union of London	16	5	10 10¾

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—Bate's West Hartley 15 6—Buddle's West Hartley 15 6 to 16—Carr's Hartley 16—Chester Main 15—Dipton Tanfield 13—Hasting's Hartley 16—North Percy Hartley 15 6—North Pontop 13—New Tanfield 14 6—South Peareth 15—Tanfield Moor Butes 14 6—Wylam 15 9—West Wylam 16—West Hartley 16—Wall's End Bell and Brown 16—Bewicke and Co. 16—Harton 15 6—Hedley 16—Hilda 15—Killingworth 16 6—Ramsay 13—Riddell's 15 6—Walker 14 9—Wharncliffe 16—Eden Main 17 3 to 17 6—Belmont 17 6—Braddyll's Hetton 18 3—Bell 17—East Hetton 15—Haswell 18 9—Hetton 18 9—Keepier 17 6—Lambton 18 3—Shutton 17 6—Stewart's 18 9—Cassop 18 3—Caradoc 18 3—Castle Eden 17 6—High Thornley 15—Trimdon 17—Adelaide 18—Cowndon Tees 15 6—South Durham 16 6—Tees 18 3—Cowpen Hartley 16 6—Derwentwater Hartley 16—Sidney's Hartley 16.—Ships at market, 460.

WEDNESDAY.—Buddle's West Hartley 16—Dipton Tanfield 13—Hasting's Hartley 16—North Pontop 13—New Pelton Main 14—New Tanfield 14 6—Original Tanfield 13 6—South Peareth 14 6—Tanfield Moor 16—Tanfield Moor Butes 14 6—Wylam 15 6—Wall's End Harton 15 6—Ramsay 13—Wharncliffe 15 6—Eden Main 17—Braddyll's Hetton 18 3—Bell 16 6—Haswell 18 9—Hetton 18 9—Lambton 18 3—Stewart's 18 9—Pease 14—Tees 18 3—Whitworth 13 6—Sidney's Hartley 16.—Ships at market, 401.

FRIDAY.—Bate's West Hartley 15—Buddle's West Hartley 15 6—Carr's Hartley 15 6—Chester Main 14—Davison's West Hartley 15 6—Dean's Primrose 13 9—Dipton Tanfield 13—Hasting's Hartley 15 6—North Percy Hartley 15—Nelson's West Hartley 15 6—Pontop Windsor 13 6—South Peareth 14 6—Tanfield Moor 15 9—Tanfield Moor Butes 14—Townley 15—West Wylam 15—Wall's End Bell and Brown 14 6—Bewicke and Co. 15—Gosforth 14 6—Harton 14 6—Hedley 14 6—Hilda 14 6—Riddell's 14 6—Walker 14 6—Braddyll's Hetton 18 3—Bell 16—Haswell 18 9—Hetton 18 9—Keepier 17—Lambton 18 3—Lumley 15 6—Shutton 17 3—Stewart's 18 6—Whitwell 14 3—Hartlepool 18 6—Hudson's Hartlepool 17—High Thornley 13 6—Heugh Hall 15—Kelloe 18—Thornley 15—Trimdon 16—Adelaide Tees 17 6—Cowndon Tees 14 6—Seymour Tees 16—Cowpen Hartley 15 6—Howard's West Hartley Netherton 15 6—Old Haigh Moor 14 6—Sidney's Hartley 15 6.—Ships at market, 494; sold, 132; unsold, 362.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	*Company.*	*Paid.*	*Price.*
1000	Abergwesin	7 ..	—
512	Albert Consols	1 ..	2½
1024	Alfred Consols	4½ ..	30
256	Alternum Consols	2 ..	15
235	Andrew and Naugiles	28½ ..	11½
1000	Antimony and Silver-Lead Mining &Smelting	5 ..	5
T624	Balleswidden	9 ..	18
128	Balnoon Consols	25 ..	25
10000	Banwen Iron Co.	2 ..	—
1000	Barristown	4½ ..	10
4000	Bedford	2½ ..	3½
128	Besore Lead Mine	14 ..	10
315	Birch Tor Tin Mine	24½ ..	—
8000	Blaenavon	50 ..	23
100	Botallack	175 ..	80
120	Brewer	5 ..	7
10000	British Iron, New,regis.	10 ..	13
—	Ditto ditto, scrip	10 ..	12
128	Budnick Consols	52½ ..	30
128	Burthy	20 ..	21
100	Bwich Cwmerfin	20 ..	—
128	Callestock	17 ..	30
1000	Callington	19 ..	32
20000	Cameron's Steam Coal	4 ..	5½-¾
256	Caradon Copper Mine	9½ ..	2
256	Caradon Mines	22½ ..	17
256	Caradon United	24 ..	5
256	Caradon Wh. Hooper	21 ..	15
1000	Carn Brea	15 ..	105
3000	Carthew Consols	1½ ..	6
2048	Cascade	1 ..	2
112	Charlestown	220 ..	30
166	Cleveland	9 ..	5
512	Coatlithe Hill	½ ..	2
1900	Combmartin	7½ ..	3
500	Comblawn	5½ ..	6
128	Comfort	45 ..	90
256	Condurrow	20 ..	31-2
2560	Cook's Kitchen	14 ..	2
2048	Coombe Tin Mine	4½ ..	2
1000	Coombe Valley Quarry	2½ ..	3½
1000	Copper Bottom	½ ..	1
1024	Cosheen	4½ ..	20
240	Craddock Moor	15½ ..	15
128	Creeg Braws	120 ..	100
500	Cubert Mine	12½ ..	15
2048	Dartmoor Consols	3 ..	2
300	D.Prior & Buckfastleigh	14 ..	20
7500	Demelza Mines	2 ..	2
7100	Derwent	8½ ..	5
1024	Devon&CourtenayCon.	7½ ..	1½
1024	Devon Great Consols	1 ..210-15	
1000	Dhurode	2 ..	5
186	Dolcoath	30 ..	50
2360	Drake Walls	4 ..	4
10000	Durham County Coal	45 ..	9
3000	Dyfngwm	10 ..	12½
256	East Alvenney	10 ..	25
112	East Caradon	42 ..	42
2048	East Crowndale	5½ ..	4½
512	East Combe Silver-Lead	6½ ..	6½
128	East Pool	5 ..	20
100	East Relistian	22 ..	40
—	East Wheal Albert	1 ..	3
94	East Wheal Crofty	125 ..	280
1024	East Wheal Fortune	2 ..	¾
1024	East Wheal Friendship	3 ..	¾
128	East Wheal Rose	50 ..1150	
2048	East Wh. Rough Tor	¼ ..	2
—	East of Scotland Iron Co.	2½ ..	½
123	East Wheal Seton	14 ..	15
256	Elborough	1½ ..	2
256	Exmoor Wh. Eliza	3½ ..	6
512	Fowey Consols	40 ..	45
6400	Gadair	2 ..	2
20000	Galvanised Iron Co.	10 ..	9½
10000	Gen.Mining Co.for Irel.	2 ..	1½
2048	Georgia Tin Mines	1½ ..	1½
256	Gonamena	31½ ..	45
128	Goonvrea	4 ..	1½
2414	Grambler & St. Aubyn	— ..	10
100	Great Consols	1000 ..	400
256	Great Callestick Moors	22 ..	25
2560	Great Michell Consols	1½ ..	3½
256	Great Resugga Moor	11 ..	12
512	Gt.Wh.Rough Tor Con.	15½ ..	18
100	Grogwinion	5 ..	—
256	Gwinear Consols	7 ..	10
6000	Helgriston Down Con.	½ ..	2½
256	Herodscombe	4½ ..	4½
256	Herodsfoot	16 ..	18
10000	Hibernian	12½ ..	1½
239	Hobb's Hill	6 ..	3
1000	Holmbush	19 ..	11
827	Kirkcudbrightshire	5½ ..	4½
500	Lady Elizabeth	5 ..	5
2048	Lamberooe Wh. Maria	11 ..	4
128	Lelant Consols	90 ..	60
160	Levant	— ..	90
1000	Lewis	15 ..	6½
1000	Llwyn Malees	5 ..	—
3600	Llynvi Iron	50 ..	50
256	Lostwithiel Consols	15 ..	15
6000	Marke Valley	10 ..	6
5000	Mendip Hills	2½ ..	1½
5000	Merionethshire Slate & Slate Slab Co.	1½ ..	2
20000	Mining Co. of Ireland	7 ..	7
256	New East Crowndale	3½ ..	3½
128	North Fowey Consols	30 ..	30
100	North Pool	45 ..	475
70	North Roskear	10½ ..	310
256	North Wh. Abraham	1 ..	1
262	North Wh. Leisure	1½ ..	2
128	North Wh. Providence	2½ ..	3
15000	Northern Coal Co.	23 ..	2
128	Par Consols	— ..	1000
4000	Pennant	1½ ..	2
100	Penrhiw	30 ..	65
9280	Perran St. George Un.	13 ..	20
128	Perran Wh. Virgin	9½ ..	15
512	Plymouth Wh. Yeoland	4½ ..	21
256	Polsaith Consols	4½ ..	7
112	Providence Mines	35 ..	45
10000	Rhymney Iron	50 ..	20
10000	Ditto New	7 ..	6½
256	Rose Consols	10 ..	2
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
—	Shotts Iron Company	50 ..	55
2500	Silver Valley	5½ ..	2

BRITISH MINES—*continued.*

Shares.	*Company.*	*Paid.*	*Price.*
1100	South Dolcoath	3 ..	2½
128	South Caradon	10 ..	450
256	Sth. Friendsh. Wh.Ann	16 ..	25
200	South Harrannah	10 ..	25
256	South Tolgus	7½ ..	50-3½
256	South Trelawney	20 ..	8½
128	South Yeoland	16½ ..	20
128	South Wheal Basset	110 ..	95
256	South Wh. Betsey	2½ ..	5
424	South Wh. Francis	100 ..	200
256	South Wh. Hope	— ..	5
1000	South Wh. Maria	2½ ..	2
256	South Wheal Rose	11½ ..	1
256	South Wh. Sophia	4 ..	4½
10000	Southern&Western,Irish	2 ..	4
280	Spearne Moor	30 ..	40
256	St. Austell Consols	9 ..	6
94	St. Ives Consols	— ..	320
128	St. Michael Penkivel	5 ..	10½
999	St. Minver Consols	1 ..	8
1000	Stray Park	43 ..	17
9600	Tamar Consols	3 ..	4
1024	Tavy Consols	4 ..12½-13	
6000	Tincroft	7 ..	8
1000	Tin Vale	2 ..	12
128	Tokenbury	142½ ..	10
256	Trehane	2 ..	25
5000	Treleigh Consols	6 ..	3
2000	Trenance	2 ..	50
96	Tresavean	10 ..	210
120	Trethellan	5 ..	16
120	Treviskey and Barrier	130 ..	135
288	Trevean	1½ ..	25
128	Trewellard	12 ..	26½
100	United Mines	300 ..	350
256	Wellington Mines	15 ..	30
128	West Bassett	45 ..	30
256	West Caradon	20 ..	120
128	West Cargoll	2 ..	12
512	West Fowey Consols	40 ..	15
256	West Providence	9 ..	25
200	West Seton	40 .	150
—	West of Scotland IronCo.	210 ..	210
120	West Trethellan	5 ..	30
256	West United Hills	— ..	5-8
256	West Wh. Friendship	9 ..	12
3845	West Wheal Jewel	11 ..	1½
2560	West Wh. Maria	3 ..	¾
256	West Wheal Shepherd	5 ..	2½
256	West Wheal Tolgus	21½ ..	5
256	West Wheal Treasury	19 ..	10
5200	Wicklow Copper	5 ..	12
184	Wheal Adams	51 ..	10
1000	Wheal Agar	— ..	10
256	Wheal Albert	10 ..	8
128	Wheal Acland	13 .	2
256	Wheal Allen	2 ..	5
240	Wheal Anderton	21 ..	25
128	Wheal Ann	— ..	56½
512	Wheal Ann, Bridford	1 ..	2
512	Wheal Anna Maria	— ..	5
1024	Wheal Ash	4½ ..	8
120	Wheal Bal	5½ ..	20
2560	Wheal Barbara	1½ ..	4-5
256	Wheal Benny	10½ ..	6
256	Wheal Blencowe	21 ..	5
256	Wheal Bucketts	20 ..	5
256	Wheal Calstock	3 ..	8½
136	Wheal Clifford	190 ..	190
1024	Wheal Coad	½ ..	5
128	Wheal Courtenay	— ..	20
6000	Wheal Curtis	2½ ..	2½
256	Wheal Dyke	12 ..	13
256	Wheal Fortescue	6½ ..	5
512	Wheal Fortune Consols	3½ ..	6½
2048	Wheal Frederick	2 ..	2
388	Wheal Franco	27 ..	32
128	Wheal Harriet	45 ..	50
256	Wheal Jane	21 ..	15
256	Wheal Louisa	8½ .	8
112	Wheal Margaret	79 ..	250
512	Wheal Mary Ann	5 ..	17
256	Wheal Mary Consols	38 ..	25
210	Wheal Prospect	4 ..	7
120	Wheal Reath	27 ..	80
128	Wheal Rose	60 ..	15
2048	Wheal Samson	¼ ..	20
99	Wheal Seton	214 ..1000	
256	Wheal Sisters	29½ ..	20
256	Wheal Sophia	5½ ..	10
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	9 ..	15
260	Wheal Trelawney	7½ ..	95
256	Wh.Tremaine(St.Ervan)	4½ ..	20
256	Wheal Tremayne	35 ..	25
550	Wheal Trescoll	1 ..	2
128	Wheal Trew	20 ..	21
256	Wheal Trevenna	3 ..	4
92	Wheal Tryphena	140 ..	265
121	Wheal Veniand	29½ ..	30
256	Wheal Vlow (Perranz.)	¼ ..	¾
184	Wheal Vyvyan	— ..	60
256	Wheal Williams	6 ..	14

FOREIGN MINES.

5000	Alten Mining Company	14½ ..	3½-4
15000	Asturian Mining Co.	12 ..	4-4½
20000	Australian	8½ ..	3½
10000	Anglo-Mexican Co.	100 ..	—
12374	Ditto Subscription	25 ..	2½
6000	Barossa Range	½ ..	2
3000	Bolanos	150 ..	3½
2000	Ditto Scrip	15 ..	3½
12000	Brazilian Imperial	23 ..	7½
10000	Cobre Copper Co.	40 ..	18
8500	Colombian Co. regis.	55	1
5000	Ditto Scrip	5½	
5000	Coplapo Mining Co.	14 ..	2½
10000	General Mining Ass'n.	20 .	13½
5000	Kinzigthal Mining Ass.	2 ..	3½
20051	Mexican Company	59 ..	—
2000	Mexican & SouthAmer.	7 ..	1½
5000	Mocaubas & Cocaes	30 ..	6
29320	Rl.del Monte,regis.	28½ ..	1½-2
	Ditto unregistered		
	Ditto Red Debentures	— ..	10
	Ditto Black ditto	— ..	8
	Ditto Loan Notes	150 ..	60
7000	Royal Santiago	10 ..	6
2000	Pachuca Mines	4 ..	4½
11000	St. John del Rey	15 ..	6½
43174	United Mexican	Av. 28½ ..	1½

GAS-LIGHT AND COKE COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
5,000	British (London)	£18	£1*	£17
5,000	Ditto (country)	19	1½*	23
1,000	City of London	100	10	290
1,000	Ditto New	100	10	290
4,000	Equitable	50	5	38½
10,000	European	20	1½	18
12,000	Gas-Light and Coke Chartered Co.	50	6	55½ 56½
6,000	Ditto New	10	6*	11 11½
9,000	General United Gas-Light Company	50	2	17½ 18½
10,000	Imperial	50	6	75
46,400*l.*	Ditto Debentures	100	4	100
8,000	Imperial Continental	39½	4½*	54 56
7,000	Ditto New	28	4½*	61
54,500*l.*	Ditto Debentures	100	5	100 102
2,000	Independent	40	6	64
3,000	London	50	6	49 50
3,000	Ditto	50	5	35
9,000	Phœnix, or South London	43	3½	31½
1,000	Ratcliff	80	5	80
4,000	South Metropolitan	25	6	30 32

THE PATENT OFFICE AND DESIGNS REGISTRY,

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INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

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Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

The National Defences.—We understand that, from an investigation which has recently been made by some of the military authorities, in regard to the relative length of railways on different gauges, it is found that, out of 3400 miles of railway now opened, 300 miles only are upon the broad, or exceptional gauge, of 7 feet—or 1-11th of the whole length of railways opened—while the remaining 3100 miles, being 10-11ths of the whole, are on the national gauge of 4 ft. 8½ in. Only 50 miles of broad-gauge railway have been opened since the commissioners reported, while upwards of 1000 miles of railway on the national gauge have been opened.—*Railway Record.*

Test for readily Distinguishing Iron from Steel.—To distinguish iron from steel, by a chemical process, take pure nitric acid, dilute it with so much water, that it will only feebly act upon the blade of a common table-knife. If a drop of the acid thus diluted be suffered to fall upon steel, and allowed to remain upon it for a few minutes, and then washed off with water, it will leave behind a black spot; but if a drop of this acid be suffered to act upon iron in the same manner, the spot will not be black, but of a whitish grey colour. The black stain is owing to the conversion of the carbon of the steel into charcoal, which thus becomes predominant; and iron being nearly free from carbon, can produce only a grey stain. The utility of this test is not confined to finished articles manufactured of steel; but its application enables the workman in iron and steel, to ascertain also the quantity and uniformity of texture of unfinished articles.—*Mechanics' Magazine.*

Harrowbarrow Mine—West *v.* Cooke and others.—A creditor's petition was presented to the Stannaries' Court, by Mr. W. West, civil engineer, of St. Blazey, alleging that the adventurers of Harrowbarrow Mine, in the parish of Calstock, were indebted to him 300*l.*, for repairing the pumping-engine of the mine, and converting it into a stamping-engine. This work was completed in Nov. last, but the petitioner had not been paid, and he had received a letter from Mr. Carne, the purser, informing him that the engine had since been sold to the Torbay Steam Flour Mills Company. The petition alleged that the purchase had not been completed, nor the purchase-money paid, nor the engine removed from the mine.—Mr. Roberts read the petition, and moved for an injunction.—The Vice-Warden granted an injunction to restrain the sale and the removal of the engine and mining materials.—*Plymouth Jour.*

LEAD ORES

Sold at Holywell.

Mines.	*Tons.*	*Amount.*	*Purchasers.*
Talaigoch	16½	£9 7 0	Newton, Keates, & Co.
ditto	16½	9 7 0	Walker, Parker, & Co.
ditto	5	10 5 0	Mather and Co.
Coetia Llyss	22	10 3 0	ditto
Milwr	3½	10 5 0	Newton, Keates, & Co.
Hendre	104	9 18 0	Walker, Parker, & Co.
ditto	32	9 17 6	Newton, Keates, & Co.
ditto	5½	9 15 6	ditto
Penryhymblas	50	10 3 6	ditto
ditto	23	10 3 6	ditto
ditto	23	10 3 6	Mather & Co.
Deep Level	60	9 18 0	Newton, Keates, & Co.
Fronfownog	90	10 2 0	Walker, Parker, & Co.
ditto	90	10 2 0	ditto
Foxdale	25	10 0 0	ditto
ditto	25	10 0 0	Newton, Keates, & Co.
Total tons	590½		

Sold at Helston.

Wheal Rose	77	£18 4 0	Walker, Parker, & Co.
ditto	25	13 10 0	B. Somers.
Total tons	102.—Amount of money		£1738 18s.

BLACK TIN.

Mine.	*Tons.*	*Price per ton.*	*Purchasers.*
Birch Tor	3	£41 0 0	Calenick Smelting Company.

COPPER ORES.

Sampled Feb. 2, *and Sold at Andrew's Hotel, Redruth, Feb.* 17, 1848.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price.*
Devon Gt. Cons.	93	£6 11 6	Wh. Anna Maria	65	£4 15 0
Wh. Josiah			ditto	21	4 15 0
ditto	91	8 10 0	West Caradon	97	5 19 6
ditto	75	9 12 0	ditto	96	6 12 6
ditto	74	6 8 0	ditto	77	6 1 0
ditto	71	6 4 6	ditto	30	11 2 6
ditto	66	11 4 0	Marke Valley	91	3 2 0
ditto	60	7 7 6	ditto	90	3 4 0
ditto	49	8 8 6	ditto	80	3 2 0
ditto	43	6 12 6	Fowey Consols	90	6 6 0
ditto	40	9 13 0	ditto	78	5 16 6
ditto	29	9 15 0	ditto	70	7 4 0
ditto	24	9 11 0	Wh. Friendship	104	9 14 6
Wh. Maria	90	6 15 0	ditto	63	9 9 0
ditto	85	6 19 0	ditto	61	9 14 6
ditto	50	7 1 0	Bedford United	116	5 16 6
ditto	20	2 10 0	Holmbush	98	5 11

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.

Also, to avoid trouble, POST-OFFICE ORDERS should always be made payable to WILLIAM SALMON MANSELL, as acting for the proprietors.

*** We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal with as little delay as possible.

GREAT WHEAL FREDERICK MINE.—*Erratum.*—In Mr. Thomas's letter, in last week's Journal, for "The purchasers of the shares were then to pay a call of 10s. per share; I was, from the purchase money I should receive, to pay a *little* call on the 1000 shares I retained,"—read "a *like* call."

"VOX."—We think it better not to pursue the matter further—as being likely to merge into a personal dispute. We have already inserted sufficient to attract the attention of the shareholders, who, as the parties interested, should satisfy themselves that the business of the company is transacted in a regular manner.

"Y." (Llandudno).—The amount can be ascertained on reference to a file of the Journal, in which the sales are regularly reported.

"B. T." can have the Journal regularly supplied by any local bookseller or news agent.

We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses; not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

The MINING JOURNAL is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, FEBRUARY 19, 1848.

The first quarter of 1848 being now tolerably advanced, we think it a favourable moment to put our friends, in all the mining districts of England, in mind of the duty to which we tinbied them, in the first or second week of the year—viz.: of collecting, each in his place, and transmitting to the office of this Journal, for publication, the fullest statement in their power—first, of the number of men employed in the mines with which they are connected, the amount of ores raised during the quarter, and the market value of the same in sterling money. We want, in fact, because the public wants, a fuller and more comprehensive account of the mining operations of the entire country, quarter by quarter, than has ever yet been gathered into form, and presented for general examination. We referred cursorily, on a former occasion, to the advantages, to all interested in mines, likely to arise from an enlarged and more particularised presentation of mining details; and we think the public would share in some of the advantages, and much of the gratification, of such a periodical *resumé*. If we are improving in the economy and comfort with which mining labours are conducted, and increasing from year to year (occasional fluctuations cannot alter the general course of the tide) in the sum of our products, let it be seen and appreciated. On the other hand, if we are chargeable, as a mining people, with waste, or want of prudence, or defect of mining skill, let it be confessed and rectified; the public will have a better opinion of the mining interest, if it sees it prompt in the admission of any imperfection in management, or in profitable results, if any such exist. We leave, therefore, the whole question of these more enlarged and comprehensive statistics to the judgment and industry of those who, from residence and information, are most competent to furnish them. We should think, that the gentlemen who occupy the situations of pursers, or captains, in the mines now in activity in South Wales, or in the west of England, may, between this time and the end of March next, advantageously fill up a part of their leisure, in the collection and arrangement of such mining returns, as will fully elucidate and explain to the public the progress of mining operations during the first quarter of 1848.

It is still our happiness to be able to point to the well-sustained improvement and increasing activity of business in general. The change from rest to motion—the transition from that heavy calm which rested on the commercial ocean to those refreshing breezes which are now filling the national sails—we were the first, as far as we know, among all our contemporaries, to discern and to announce. We do not mean, that things are already all we can wish for, or that there is not in every department of business, abundant room for further improvement; nothing of the kind. We mean, simply, that the clouds and thick shadows which recently rested on the whole region of commerce, are being dispersed and illuminated day by day. The leading elements which make up this better state of things, are a decidedly favourable course in the foreign exchanges, the continued influx of the precious metals, the increased ease with which discounts and money are procurable, the ascending motion of the public funds, the presence in the country of large orders for wrought goods in several leading departments of business, and the gradual elevation of prices. We must by no means omit from the list of circumstances, favourable to our material progress, the improved condition of Ireland. If, yielding to the admirable treatment which the case of that suffering country is now receiving, the capacity of its pregnant soil is made the most of, and the hands of its thronging millions turned to agriculture, to mining, and to all the open, elementary practical arts, of which that island might be made the fruitful theatre, then there is no amount of public prosperity—no sum of national happiness—of which she might not, in common with ourselves, be the equal and the honoured sharer. Again, if, during the ensuing summer, it should be the pleasure of the God of Harvest to favour us with a full and plenteous gathering in of our annual fruits—of which the promise is at this moment great and hopeful—in that case we should obliterate from the face of these islands all traces of our recent calamity. But without reaching forward to things future and contingent, but resting on the clear evidences of the present, we may assure ourselves of the sensible improvements which have already revealed themselves. Property in mines is become a better property than it was. The comparative frequency, and the far greater number of shares daily passing into new hands, is the best evidence which can be asked for of the revival of business in this particular and profitable department of our native industry.

In our last week's Journal, we noticed that a meeting of the shareholders in the Company of Copper Miners in England, was held on Friday, when admission to reporters was refused, and that the proceedings, in consequence, remained to the public a sealed letter. This meeting was preparatory to the usual meeting, advertised by the directors, held on Saturday last; and from which also reporters were excluded. We have, however, obtained some information on the subject, which may prove interesting; and from the report, we glean that the balance-sheet not having been prepared in time for the meeting, the directors proposed calling another as soon as the auditors had completed the accounts.

The Court had every reason to believe that the works of the company were in an efficient state, and that the outlay in Wales, though large, had been judiciously made; but, in order to have an unbiassed opinion on this head, and on the general value of the company's property, the Court readily acceded to the suggestion, that a gentleman of experience should visit the works, and make a report upon them. The gentleman selected was Mr. W. NEEDHAM, of the Plymouth Iron-Works, who is now engaged in preparing his report. Up to a very recent period, the Court of Assistants numbered amongst them gentlemen of the highest standing in the financial and commercial world; and, notwithstanding they possessed facilities for obtaining credit, the downfall of several houses connected with the company, the withdrawal of the usual sources of credit, with other causes operating to the detriment, and even ruin, of many of the first houses, had so impeded the progress of this company, that in October last the Court of Assistants found themselves in great difficulty; so much so, that they were obliged to seek the assistance of the Bank of England; and, rather than allow a sudden suspension of the works, which would have been fatal to the interests of all parties, the Court assented to the stipulations of the Bank, and recommended the proprietors to grant a mortgage on their works and property for 270,000*l.*, which was assented to. This was, however, only regarded as a temporary measure of relief; and it was believed, that the working operations of the company would produce such further funds as might be necessary to carry on their concerns. They did not then anticipate that all the usual sources of accommodation would, in consequence of the damaged credit of the company, be closed, but such proved to be the case; which, combined with the depressed state of trade generally, compelled the Court to apply to the Bank for further assistance, by advances on bills and other available securities; this was agreed to, with a distinct understanding that these advances were only temporary, until the Court should ascertain from its proprietary, and debenture holders, whether money could be found to carry on the concern, or whether its affairs would have to be put in course of liquidation. To do this, it would be necessary that the proprietors should authorise the vesting of the company's property in trustees, with the usual powers. The solicitors of the company had laid the question of the unpaid calls before counsel: whose opinion was, that the calls cannot be legally enforced. The Court of Assistants, though they felt conscious of having been influenced by the best motives for the welfare of the company, could not conceal from themselves but that they had, with others, been blameable for permitting a concern to be carried on by means of capital raised on unsound principles. Regrets were unavailable, and the best course appeared to be, to unite in endeavouring to uphold the property, which in itself remains unaltered in intrinsic value; and the Court was led to hope that, with proper energy and unanimity among the parties interested, sufficient capital would be found to preserve the property, and make it remunerative. The following resolutions were then passed:—"That the Court of Assistants be authorized to affix the common seal of the corporation to a deed, to be prepared under the advice of the company's solicitors, vesting the property of the company in trustees, with power of sale of all, or any part of, the property, from time to time, for liquidation of debts, and to protect the interests of all concerned.—That a committee of six be appointed from among the shareholders, to investigate the affairs of the company, and to confer with the directors."

We sincerely wish we could join in the hope expressed by the Court of Assistants, "that with proper energy and unanimity, the property may be rendered productive;" but we much fear that, notwithstanding the extent and value of the property (possessing some of the best ironstone in the principality, including black-band), and its numerous natural advantages, the system of management pursued since the establishment of the company, has rendered it of little value to the original proprietors, whatever may be done to retrieve past errors; and it appears a question considerably difficult to answer, how the debenture holders are to redeem the concern from the Bank of England, and afterwards render it sufficiently productive to pay themselves. A scheme has been proposed, to pay off the mortgage by yearly instalments, and raise an independent capital of 100,000*l.*, to work the mines and manufactories with spirit and economy. We regret exceedingly to find such an establishment on the brink of ruin; one which, at its commencement, held out such vivid hopes for the free-trade and mining interests, and was to pioneer the way for the reduction of the smelters' monopoly.

Since the above was written, we have received additional information, which enables us to give some particulars respecting the financial position of the company. The Court of Assistants, it appears, produced no balance-sheet, so that no distinct idea can be formed of the actual state of their affairs. The reason assigned for this omission, after it was admitted they had four months' time for preparation, was—what must appear to be a very frivolous one—that the day before the meeting they had discovered an error of 2*l.* in the balance-sheet. We, however, annex an epitome of the state of the affairs, made up from the communication alluded to:—

The company is in a decidedly bad position. We have before noticed the mortgage on its property taken by the Bank of England for 270,000*l.*: since that date the Bank has been advancing money to pay wages on goods deposited on account—

The nominal capital of the company advanced by the shareholders is	£1,000,000
The amount borrowed on debentures is	600,000
The debt to the Bank of England, under mortgage, is	270,000
Total	£1,870,000

The subsequent advances by the Bank are not ascertained, but they are probably covered.

The common debts due by and to the company are not stated, but we may assume that all these items will increase the money for which the company is liable to, perhaps, 2,200,000*l.* The Bank of England's claim of 270,000*l.* will first have to be satisfied: the ordinary creditors will, probably, come in next. The holders of debentures will have to be paid from the residue; and, as there is little probability of that reaching 600,000*l.*, the shareholders will be left short of their million.

We have no authority for saying, that this must be the conclusion, because the governor and directors refused to show their balance-sheet, on the ground that they had discovered an error of 2*l.* or 3*l.* Punctuality and accuracy are to be admired in businessmen; but an error of 2*l.* or 3*l.*, or even of 200*l.* or 300*l.*, might be borne with in an account of 2,000,000*l.*, merely to get an idea of the result.

It is stated that the directors of the company are at present refusing to give any further bills to their creditors; but, it is added, that the latter will be paid in full. We hope there is no doubt of that, because there is the 1,000,000*l.* of the shareholders, and the 600,000*l.* of the debenture holders, to be accounted for after the ordinary creditors are paid.—When the Bank of England obtained the mortgage of 270,000*l.*, there was only a sum of 120,000*l.* advanced, as 150,000*l.* stood formerly borrowed on open account, for which the directors were personally responsible. The latter have been peculiarly fortunate in getting out of that scrape.

GOVERNMENT CONTRACTS FOR COALS.—On Thursday last, the 17th inst., the following contracts were concluded:—First, for Greenwich Hospital, 2800 tons of Newcastle Wall's End Heaton, properly screened, and of the best quality; the first supply to commence on or before the 1st day of April, and 2000 tons to be delivered before the 30th of June next, and the remainder, namely 800 tons, in the month of September ensuing. The meters or weighers to be appointed by the comittee of the Coal Exchange, to be paid wholly by the contractor, and the same to be delivered in whole cargoes from the vessels, alongside the hospital wharfs, free of all charge and expense to the purchaser. All deliveries in one month will be paid for on or about the 16th of the month following. The second contract was for the department of the Comptroller for Victualling and Transport Services, for supplying and delivering into her Majesty's Victualling Stores at Deptford the following—1500 tons of hand-picked Bryndorway, Llangenneck, or Graigola coals; one-third to be delivered by the 1st of April; another third by the 30th of June; and the remainder by the 31st of August. Also, 300 tons of screened Newcastle (Sidney's or Hartley's Wall's End), to be delivered by the 1st of May next. In consequence of the mildness of the weather, and the number of shipments to the port of London, during the last few weeks, the market has been greatly affected; and the contracts are stated to have been entered into at a low figure, with great competion.

OPENING OF THE CALEDONIAN RAILWAY FROM GLASGOW TO BEATTOCK.—On Monday morning, this important line was formally opened, so that the citizens of Glasgow have now, for the first time, a direct railway communication with the metropolis, and all the English lines. At a quarter-past nine o'clock, two first-class carriages and a second-class were in waiting at the station at Townhead, for the reception of the party invited, and started at twenty minutes before ten, when the signal was given, and the first engine in connection with a direct railway to London was issuing its furious snort towards the south. The construction of the carriages is most elegant, and surpasses any yet seen in the north. This line passes through one of the most industrious parts of that part of the country, which shows the progress of mining enterprise. Among the most noted, we may name the Garthaerrie Works, with sixteen furnaces in active operation; Langloan, Drumpeller, Dundyvan, and Whifflat Iron-Works—close to the rising town of Coatbridge—the Calder and Cairnbroe Iron-Works. After a delightful trip, the party arrived at Beattock station at a quarter to one o'clock, where they partook of a sumptuous luncheon. Mr. Tite, architect of the Royal Exchange of London, took the chair, when "Prosperity to the Caledonian Railway Company, and success to the line," was heartily responded to by the distinguished *convives*. The party left, on their return, at fifteen minutes to two o'clock; reached the Edinburgh Junction at three; and arrived at Glasgow, with full steam, at five in the evening. On their route they were joined by a party from Edinburgh connected with railways, who expressed their high satisfaction at the brilliant and successful trip.

PROGRESS OF FRENCH MINING INDUSTRY.

[FROM OUR PARIS CORRESPONDENT.]

The bill for effecting a reduction in the duty on salt, and for placing the monopoly of the sale of that article in the hands of the Government, has been submitted to, what are called, the *bureau* of the Chamber of Deputies—*i. e.*, to the sections, or committees, into which the Chamber is divided. The preliminary discussion which took place therein was not at all favourable to the measure; and the committee, which has been elected to report to the Chamber on it, is decidedly opposed to it. Strange to say, M. Demesmay, the deputy who has made the salt question peculiarly his own, from the great number of speeches which he has delivered, and pamphlets which he has written on the subject, has *not* been chosen a member of the committee. This is about as wise a proceeding as it would have been to have excluded Mr. Cobden from an inquiry into the effect of the late Corn Laws in England; but what can you expect from such an enlightened body as the Deputies of France? Did they not, last year, when an inquiry into the coal and iron monopolies had to be instituted, appoint committees in which the coal-owners and ironmasters were in a majority?

The Customs Bill is, I perceive, on the orders of the day of the Chamber of Deputies—it will, consequently, not be very long before it comes on for discussion. Your readers are fully aware, that the bill contains clauses for allowing iron, copper, and zinc, *destined for shipbuilding*, to be imported into this kingdom free of duty. From some remarks, which I have seen in some of the English journals, it appears to be thought that the measure proposes to effect a *general* reduction of the iron and coal duties. Nothing can possibly be more erroneous. It is only proposed to extend the reduction to shipbuilding, in the hope of raising the merchant navy of France from the woful state of decadence into which it has fallen. The bill takes due precautions for preventing iron from being imported for purposes not specially designed by it. If my memory does not deceive me, a translation of such parts of the measure, as interest your readers, has already appeared in the *Mining Journal*. Though comparatively harmless, the bill has not had the good fortune to meet with the approbation of the committee to which it was referred. These gentlemen profess to think that the concessions which it proposes to make to the shipbuilding interest, are insignificant in amount, and dangerous in principle. But the Chambers of Commerce of all the principal seaports, have declared in favour of the bill—indeed, they have said, that without the concessions it makes, nothing can save the merchant navy from that total annihilation to which it has been tending for years past; and as to the alleged "danger" of the "principle," it is a big phrase which means nothing more than that it is "dangerous" to the interests of the ironmasters and other monopolists to allow iron, &c., to be introduced at a moderate rate, even for the attainment of a great national object, inasmuch as it is certain that such a concession will render railway companies, and the public in general, more clamorous than ever for cheap iron.

If the Government really desires to see this bill become law, there is no reason, whatsoever, to fear that the ironmasters and coal-owners will have power to prevent it; for the Government would be certain to receive sufficient support from members of the Opposition, to make up for any desertion in its own ranks. The debate on this measure is looked forward to with considerable interest, as it will, no doubt, lead to a searching examination into the coal and iron monopolies.

Should the bill be passed in its present form, it will be more advantageous to England than to any other country. Indeed, the object of it is principally to encourage the introduction of sheet-iron; the shipowners having proved that the great cause of the decline of the merchant navy is the impossibility of competing with foreigners, owing to the enormous expense of constructing vessels; and they have expressed an opinion, that it would be more advantageous to their interests to be able to construct vessels in iron than in the wood. Now, there is no other country which can venture to compete with England in the supply of that article, either in regard to quality or price. From England, then, the supplies will be demanded. As to the quantity which will probably be required, it is impossible to fix it with any accuracy. In the first flush—the honeymoon—of the new measure, it will not unlikely be rather considerable; and after that, the annual demand cannot be less than several thousand tons, with the certainty of a steady and gradual increase. The new bill also proposes to remove the duties on the importation of copper. Here, again, England ought to reap all the advantages of such removal, and she, no doubt, will. An attempt, however, it is said, is to be made, to fix some duty on the copper from England, leaving that from other places free; but it would be absurd to do anything of the kind. Chain-cables, anchors, bolts, and all articles used in ship-building, are also, it is proposed, to be imported free of duty, or, at least, on the payment of a very moderate sum. These things, likewise, ought to be supplied principally, or exclusively, by England. In fact, of all the articles specified in the bill, there is only one (zinc) which England is not able to supply better and cheaper than any other country. I presume, then, that your readers will not, by any neglect of their own, allow this new *debouché* to be juggled from them.

It is announced, that, in a few weeks, the railway to Boulogne will be opened throughout; and it is added, that the directors of it are taking measures, in conjunction with those of the Dover line, for the expeditious and cheap conveyance of goods between London and Paris. I am informed, that the probability of being called on to convey considerable quantities of coal to Paris, enters largely into the calculations of the directors of the Boulogne line. I hope that these calculations are not destined to be disappointed, but that your readers at Newcastle are determined to make a bold and a strong push to secure the Paris market. The importance of that market has been demonstrated in your columns more than once; but it may be repeated, that it consists of a population of 2,000,000—1,000,000 in Paris, another in the department in which Paris is situated—and that the usage of coal is becoming every day more and more general among them.

In addition to Paris and the department of the Seine, it must be recollected that the Boulogne Railway passes through, or is in immediate communication with several of the most populous departments in France, and precisely those in which there are the greatest number of manufactories, in which, either from necessity or choice, English coal is consumed. I am well aware that English importers would have to struggle against unjust import duties, and against Belgian competition; but let it be remembered that agitation is going on for a reduction of the duties, with every probability of eventual success; and that, with respect to Belgian competition, the English have the immense advantage of being able to offer a better article than the Belgians. We have seen, that the Belgians themselves are tempted at the idea of seeing English coal at Paris—a sure proof that it only requires to be forwarded, to beat theirs. Already, indeed, the imports to Paris of English coal are very considerable; and I am assured, on good authority, that they are gradually increasing; but they have not attained the figure which might have been expected; and, therefore, it is that I press the matter again on the attention of your readers, and earnestly intreat them to *lose no time*. The French, with all the frivolity which we ascribe to them, are, in truth, a people of routine—scarcely any people are more so. If, then, they be allowed to get into the routine of using Belgian coal in preference to the English, it will not be easy to wean them from it. And that is a strong reason why the English should exert themselves *now*.

The last quotations at St. Dizier are—For the iron called *roche*, from wood, 430 fr. to 440 fr.; for the *fers battus*, (coal), for Paris, 340 fr.; for the provinces, 350 fr.; *fers laminés*, 340 fr.; *fontes blanches*, without affairs, at 145 fr.

Some months ago, I noticed certain charges made against Messrs. Talabot, the ironmasters, and other persons, of having formed a company, for monopolising all the concessions of mines in Algeria. The person making these charges having gone to the length of accusing Messrs. Talabot, and several eminent officials connected with Algeria, of bribery and corruption, has been condemned to a lengthened imprisonment, and a heavy fine; but though, perhaps, it is a libel, to say that Messrs. Talabot have obtained concessions of mines in Algeria by means of bribes, it is certainly not one to allege, that they are endeavouring to monopolise as many concessions as possible, in the hands of a company of which they are the chiefs, and that they have already absorbed several concessions. For my part, however, I entertain no great objection to this sort of "monopolies," as they are called; for I think that nothing is so objectionable, so ruinous, and so positively mischievous, as mineral undertakings cut up into shreds, and cast into the hands of men without either intelligence or capital; but, at the same time, if Messrs. Talabot swallow up all the minor *concessionaries*, the least they can do is to work their concessions, or to declare frankly, that they are not worth working. They have, however, thus far done neither one nor the other, and they have thereby increased the uncertainty and distrust which at present hang over Algerian mining undertakings.

A company has been formed in this city, for the special purpose of undertaking to search for mines and mineral deposits.—*Paris, Wednesday.*

BELGIUM.—There has been something like a riot among the workmen of the establishments of the Vieille Montagne, owing to the managers having endeavoured to make the men, engaged in reducing the ore into zinc, pay for all the coal they may consume above a certain quantity. The men resisted this pretension as exorbitant, and at one moment they assumed such a threatening attitude, that the *gendarmerie* had to be called out. An arrangement has, I believe, since been come to, satisfactory both to the men and the managers.

A meeting of the shareholders of the Mines et Fonderies of Bleyberg is called for the 9th March, to deliberate on the financial measures necessary to be taken for the extension of the operations, and enlargement of the works of the company.

The coalowners in the basin of Charleroi have had a reduction of as much as 75 per cent. on the tolls of the canal from Charleroi to Brussels, so as to enable them to send their coal to the capital on nearly the same terms as that of other basins. They complain that at present the heavy charges to which they are subjected, deprives their coal of nearly all chance of sale in Brussels.

Some little agitation is being made for a reduction of the duties on the importations of British cast-iron. The protection which the Belgians enjoy against that article is really monstrous, and, what is more, perfectly unnecessary. It is not only a heavy burden on the consumers, but it greatly lessens the general interests of the country, by rendering it impossible to export different objects—machines for instance—on such favourable terms as the British. The Government could not adopt a wiser, or a better, or more popular, measure, than to revise the tariffs on this subject.—*Brussels, Tuesday.*

PROGRESS OF MINING IN SPAIN.

We have received a very important document from our correspondent at Madrid, being the project of law respecting the concessions of mines in Spain, and the regulations regarding the working of ores, presented by the Commission on Mining to the Cortes, or Congress, on the 7th inst., from which we make the following extracts:—

The report consists of 32 articles, and six additional ones. According to the first article, all metallic substances are considered as a special branch of every description of ores, coal and combustible, or bituminous matter, salt, and other mineral produce, which are found either in the interior of the mountains (sierra), or the superficie, be they in what state they may; also, all precious stones, which are capable of being worked. The right of property to the above belongs to the State, and no one can work them without previously obtaining a concession, or grant, from the Government, according to the law. The mineral productions of a *terroso*, or earthy nature—such as silica, or building stone, sand, and gravel, argillaceous, and other clays, according to the soil, which have hitherto been allowed to be explored by the parties holding the property, will, for the future, not be permitted to be extended to the adjacent property, without the consent of the proprietor. When these materials are applicable to the making of earthenware, porcelain, bricks, glass, or other branch of industry, or buildings of public interest, leave can be obtained to work them, by applying to the Political Chief, should the proprietor object to it, after having been heard before the Provincial Council, and then only after remunerating him for the value of the land, and a fifth more, so as to fully compensate him for the damage that may be occasioned. All auriferous sands, and other metallic productions of the rivers and places, can be worked without a special license, or formality, if there are no fixed establishments already on the spot. Before a grant is made to work a mine, the party must first find out who is entitled to the property, and then the right of working it must be applied for to the Council of Mines in the usual form, who will submit to the Council of State, and then how far it will be of public benefit. The concessions of working mines are unlimited, provided that the mining party fulfil the conditions of the grant and this law, otherwise the proprietor can dispose of it the same as other property. Every Spaniard, or foreigner, can make explorations, or researches, to discover the ores and minerals freely—so that they are confined to a certain limit, which shall not exceed four yards (varas) of superficie, and one in depth. When these borings, or cuttings, are to be made at a less distance than 50 yards from any building, garden, orchard, vineyard, or public places, &c., they cannot commence working them, without previously having obtained permission of the owner, or his representative; and on his objection from the Political Chief, who cannot grant it without the leave of the Provincial Council, the explorer shall be obliged to indemnify the proprietor of the land for all damages he may occasion.

No one can sink a shaft, nor open galleries, within the radius of 1500 yards of the squares and fortified places, without having previously obtained the permission of the superior military authority of the province; nor can they open a shaft, or gallery, within a radius of 1000 yards of a town or village, without having obtained permission from the authority of the district. In all cases, if the land is private property, if the proprietor of it should think proper to set forth his right of claim to enter into partnership with the adventurer's company, he can do so to a tenth portion of the profits and expenses, but such claim must be made within two months after having given notice of the discovery. The first party who solicits the permission of the Political Chief to sink a shaft, or gallery, will have the right, that no other person shall open one within 100 yards of his workings for six months from the date of his permission; and if, at the expiration of that time, important works have been carried on, the Political Chief, after hearing the Provincial Council, can allow them to proceed for another six months, and so on. When the time is expired, without the discovery of the mineral, or ore, the exclusive right will cease, and any other party may solicit the permission to open a pit, or gallery, within the radius of 100 yards, and should the lode be discovered, the grant will be conceded. The proprietor of the land, however, in which a lode, or vein, of mineral may be discovered by means of a shaft, or gallery, more than a yard deep, will have no right to participate in the same. Each proprietary to a mine is constituted by a solid rectangular base of 300 yards wide, by 200 in breadth, and an indefinite depth in a vertical direction, without including the superficie. There will not be granted to one person more than two contiguous pertenencias, and three, if a company of four or more parties. In the iron mines, and those of coal, each working (or pertenencia) must have for its base a rectangle of 600 yards in width, and 300 in length.

Every miner is obliged to make good the damage he may cause to his neighbour, by extracting the water accumulated in his own works; and also to pay a portion towards the expenses and the benefit he may receive from the draining of the adjoining mine. They can obtain the necessary ground for their furnaces, smelting-houses, &c., and for the workmen, and also for cutting roads, if not exceeding half a league, by application. No mine will be considered in full work, if there are less than six men in each, according to the extent of it. No party can suspend the works of a mine, although it may be under the intention of abandoning it, without previously giving notice to the Political Chief, so that the mining engineer of the district may attest as to its state of security; otherwise the proprietor of the land would have to make all repairs. Non-compliance with the regulations set down, by law and the police, will incur a fine from 200 to 4000 reals. Parties forfeit their right to a mine, as follows:—If they fail in complying with the conditions of the concession—if six months have expired, after having obtained it, without working—when these have begun, and they have not been in full work for four consecutive months, or eight interrupted, in the course of the year—if, by bad direction, the works are threatened with ruin; if, however, violence, or armed force, may be made to prevent the proceeding of the workings, there is an exception. After a mine has been abandoned for ten years, or the furnaces, &c., and not denounced by another party, the whole then devolves to the proprietor of the land when they were first erected.

The tribunals can in no case, except that of breaking in, decree the suspension of working the mines, nor the buildings for smelting or treating the ores, unless they become too delapidated and dangerous to public safety. The special jurisdiction of mines will be referred to a superior court or tribunal. The Government will, as early as possible, declare the regulations to be enforced, and what will be the duties, or royalty, on the mines and their produce; in the meantime, the present law will continue.

The following is the official return of the department of mines of the quantity of silver treated in the different parts of the kingdom in the months of October and November, 1847. In the Sierra of Almagrera and Murcia, in October, the Mine of Esperanza—1168 mcs. 4 ozs.; Carmelita, 1017 mcs. 1 oz.; San Jorge (2), 1646 mcs. 6 ozs.; San Isidoro, 240 mcs.; San José (2), 1227 mcs.; Concepcion (2), 1133 mcs.—total (9 mines), 6432 mcs. 3 ozs. In November, the return was—the Carmelita Mine, 2101 mcs. 5 ozs. of silver; Tres Amigos, 571 mcs.; San José, 1543; Virgen del Pilar, 882; Union, 666; Concepcion, 534 mcs. 6 ozs.; San Jorge, 1407; and San Isidoro, 190. Inspection of Granada and Almeria:—San Andrés, 671 mcs 2 ozs. Inspection of Madrid: La Constante, 2705 mcs. 4 ozs. 7 oits.—making a total of 11,272 mcs. 1 oz. and 7 oits. of silver.

FREE IMPORTATION OF ZINC INTO FRANCE.—The French Government has issued a very important ordinance in the *Moniteur*, relating to the free importation of zinc into France, which will be the means of greatly increasing the Vieille Montagne, Nouvelle Montagne, Grand Montagne, and Antonius Zinc Manufactories of Belgium, as well as those of Prussia, as this metal is now becoming of very general use—being adapted to nearly every purpose. This is the first step towards the free-trade and reduction in the French tariff, preparatory to the intended alterations in the importation of British and other foreign iron and coal into France, which is looked forward to with so much interest by commercial men generally. The following is the decree:—Article 1st.—Raw zinc, or in pigs, intended to be flattened in France and re-exported, will be admitted free of duty, according to the conditions determined by Article 5, of the law of 5th July, 1836. The importation can be made either by land or sea under French flag, or that of the country which produces it. When the importation takes place on board vessels of its production, it must be duly authenticated.—Article 2. The loss of fabrication is fixed at 5 per cent. in the weight of zinc in its raw state. The re-exportation, or reintegration, into *entrepot* of flattened zinc, must be made within three months at the most. Article.—3. If there is any attempt to subtract any, the parties will be liable to heavy penalties.—Article 4. Raw zinc cannot be imported, nor flattened zinc (*laminé*), re-exported, but through the *bonâ fide* bonding ports and the custom offices, on the frontiers by land open to transit. There is also a new regulation of the Custom House, relative to coal and coke being weighed, or measured, when on board a ship. The Belgian journals are already making an outcry at the projected alteration in the importation of British coal into France, as a measure which will be most ruinous to their colliery proprietors, who cannot compete with England. They have little reason to complain; for, out of the 44,000,000 metrical quintals of coal consumed annually in France, they send 22,000,000; and divide 50 departments with the French coal proprietors! The Belgian ironmasters and collieries are greatly alarmed at this contemplated change in the tariff in favour of British industry, and are trying all they can to excite the monopolists of France against the measure; but the Government appears determined upon carrying the point; for the French and Belgian ironmasters have too long had the monopoly in their hands—thereby preventing the extension and completion of the greater portion of the railways in France.

The Metallurgical Treatment of Ores.

In our Journal of Dec. 26th, 1846, we published No. 12 of this series of papers, containing the practical details of the method of amalgamation in use in South America, for the separation of silver from its ores; in the present Number, we resume the subject, by giving the actual theory of each stage in the operation. Sonneschmidt, many years since, made numerous experiments on some parts of the process described in our last paper, and deduced from them some sound results, as to the probable theory. Since that time, M. Karsten repeated the experiments, and produced analogous results, broaching also a theory of the process, which has been confirmed in many respects, and completed in its essential points, by the late experiments undertaken in America by Boussingault. The substances employed in the American process are the ore, sulphate of copper, common salt, and mercury. M. Boussingault first proved, by direct experiment, that the mixture of sulphate of copper and common salt gives rise, even in the cold, to sulphate of soda and chloride of copper—so that, in reality, the after action takes place between the ore, chloride of copper, salt, and mercury. Many substances possess the property of separating from chloride of copper half its chlorine—thus reducing it to the state of subchloride. It is upon this fact that the theory proposed by M. Karsten is founded; but M. Karsten, seeing that sulphuret of silver was not acted on by chloride of copper, failed to explain the action in the large way where it really takes place; this was an essential point—for M. Karsten was obliged to suppose that which he could not explain. M. Boussingault, however, proved that sulphuret of silver is attacked by chloride of copper, provided there is present a very large excess of common salt—a circumstance which is always realised, when acting on silver ores in the large way. In this reaction, chloride of silver, sulphuret of copper, subchloride of copper, and free sulphur, are formed. The chloride of silver, and subchloride of copper, are soluble in the excess of common salt. The cause which determines the reaction, is doubtless, the tendency these two chlorides have to combine with common salt. These data being perfectly understood, the explanation of the process becomes easy. Firstly, the ore mixed with common salt and sulphate of copper, represents a mixture of chloride of copper, with excess of salt and silver ore.—Secondly, in a short time, if the operation has been well conducted, this mixture contains chloride of silver, dissolved in excess of salt. When an excess of ore is present, sulphate of copper (*magistral*) is added; and when an excess of copper salts are present, lime is added to decompose them. The presence of an excess of copper salts is exceedingly injurious—for they possess the power of converting metallic mercury into chloride of mercury. This is pure loss; and even a small portion of silver may be converted into a chloride of that metal.—Thirdly, and lastly, the mercury added to the mixture, converts the chloride of silver into chloride of mercury and amalgam of silver. This conversion is facilitated by the silver being in a state of solution. M. Boussingault proposed to more perfectly separate these operations, which in the American process are slightly confounded. He would allow the action of the copper salt to be perfectly finished, and then decompose the chloride of silver so formed, by the addition of iron, before the addition of the mercury—so that the last mentioned metals should be added merely to collect the silver set free by the action of the iron. This modification, although proposed and executed in various manners, has not been generally adopted. This may, perhaps, be owing to some mismanagement as to the time observed for the addition of the iron—it may possibly have been added before the formation of chloride was complete.

M. Boussingault regards the sulphate, or rather the chloride, of copper, as the magistral, *par excellence*. Perchloride of iron does not seem so well adapted for this purpose, although it is possible to use it. The perchloride of iron has a perfectly analogous action with the chloride of copper in all these decompositions. In some works in America, Pentland says, that a ferruginous magistral, perfectly free from copper, is employed, but such cases are rare. We have, in the above description of the reactions taking place in the American amalgamation, attempted to call attention more particularly to general principles, without entering into minutiæ, which would only be tedious. Accidental phenomena, doubtless, happen in this process, not only from its length, but from the fact, that so many heterogeneous matters are placed within the sphere of their mutual action. M. Humboldt, some 20 years since, was much struck with the part played in these decompositions, or rather the part he thought was played by electrical currents, arising from the contact of such a variety of metallic compounds, favoured by so excellent a conductor as saline water. The late experiments of M. Becquerel prove that Humboldt's opinion was correct in its main features. The details of the American amalgamation process can yet be minutely studied, with the hope of a nearly certain success. This process is based upon such an excellent foundation, for little fuel is employed, little labour, and such poor ores are treated, which could not be profitably worked by any other method. There yet remains, however, better means of ensuring the total separation of the silver, and, above all, to prevent loss of mercury. Proust, and many chemists after him, have called attention to this loss, which each year, according to the authority of Humboldt, amounts to no less than 25,000 quintals—that is to say, about a third part of the produce of all the known mercury mines. By reducing this loss, we should not only economise the use of mercury, but the produce of silver would be increased, for the silver mines of the New World are so extended, that their working is much influenced by the quantity of mercury which can be placed at their disposal. The loss of mercury in the American process cannot be estimated *à priori*, on account of the presence of a variable quantity of metallic silver in the ore. This native silver ought to amalgamate without loss of mercury. When the silver, as converted into chloride, or when it exists in that state naturally in the ore, we can readily see that 187 parts of mercury ought to be lost for 100 parts of silver—that is, supposing the former metal to be converted into the state of subchloride, which corresponds to the results of experiment, and the theory of the reactions of mercury. We can, therefore, establish that the greatest loss of mercury ought not to exceed 187 parts for 100 parts of silver produced, if other causes do not interfere. Among these causes there are some to which we shall pay particular attention. The first exists in the very imperfect process by which the distillation of the solid amalgam of silver is carried on; this solid amalgam, or, as it is termed, the *pella*, yet retains mercury; from this we can see that some mercury is lost by imperfect condensation, and some by remaining in the silver, from whence it is expelled during the fusion of that silver, preparatory to its being formed into ingots. The apparatus employed at Freyburg is not suited to the American works, for the quantities there distilled are too considerable for its use; but we can readily suppose that the apparatus employed in the manufacture of coal gas in this country could be introduced into these works with great facility and certain success; in this case, the distillation of the amalgam would be continuous, and we should at once have a saving of labour, fuel, and mercury.

The second cause of loss results from the extreme difficulty in completely washing the earthy matter containing the amalgam. Very finely-divided particles of mercury, enveloped in a coating of air, float on the surface of the wash-water, and are thus mixed up with, and lost by, the the earthy matters, which are carried off. These portions of mercury, known under the name of *lizes*, are more or less abundant in the various operations. It is very difficult to fix the precise value of this loss, but it is considerable, and known to all those engaged in the amalgamation process. In the third place, the loss is occasioned by the formation of a variable quantity of suboxide of mercury, and which is converted into subchloride, by the action of the salt in the mixture. The extreme division of the mercury, the united presence of water, air, and salt, are the chief promoting causes of this phenomenon. Among the conditions which can tend to increase this loss, to a most grievous extent, is a certain elevation of temperature, which must be most particularly noted. It is from this cause especially, that the hot amalgamation of Barba presents such serious inconveniences, if it be not carried on in copper vessels, which preserve the mercury. Lastly, the chemical decomposition of chloride of silver by mercury, is, in itself, an inevitable loss, which we have already fixed as high as 187 of mercury for 100 of silver. This loss it called, by the American adventurers, the *consumo*, and of which they well know the necessity. Of the whole quantity of mercury consumed, there is a tenth, or a twelfth, which is lost by a cause difficult of evasion. Having now considered this part of our subject as fully as consistent with our limits, we will proceed to describe the treatment of silver ores by fusion.

The treatment of silver ores by fusion is exceedingly ancient, and preceded, in its application, the methods of amalgamation we have already noticed. It is the method by which very rich silver ores are treated, and is, in fact, a true scorification, and is executed in a cupel furnace, which will be described hereafter. The cupel is charged as usual; and when the oxidation of the lead is in full operation, the silver ores, which are to be treated, are gradually added. This method succeeds perfectly with all ores that are well cleansed from gangue, litharge having the property of yielding its oxygen to nearly all non-earthy substances, which are generally united with silver in these ores. From this treatment, there results an alloy of lead and silver; whilst all the foreign matters contained in the ore are scorified. The alloy is then cupelled as usual; this operation will be described below in a general manner. It is only the ores of silver which are tolerably rich and simple in their constitution, which can be treated by a prolonged roasting in a cupel; when the ores are not so rich, recourse must be had to a fusion—the purpose of which is to produce an alloy of lead and silver. This can be accomplished in various ways, by operating either on the roasted, or rough ores, with, or without, the addition of substances containing lead. The essential character of this operation is, that all enters into fusion—the metallic as well as the non-metallic bodies. The nature of the ores, and of the fluxes employed, obliges the operator to vary the methods, and thus renders this operation exceedingly complicated.

This process, applied to rich ores, allows us to extract only a certain quantity of silver; and it is probable that this was the process first employed in the extraction of this metal from its ores. M. Humboldt says—"From 1545 to 1571, silver ores were only treated at Potosi by fusion. The *conquistadores*, only being possessed of military knowledge, knew not how to direct metallurgical processes. Not succeeding in fusing the ore by means of bellows, they adopted the odd method which the aborigines employed at the neighbouring mines of Porco, which had been worked by the men long before the Conquest. On the mountains surrounding the town of Potosi, especially where the wind blew strongly, portable furnaces, named *huayres*, were established. These furnaces were cylindrical tubes of clay, very large, and pierced with a great number of holes. Into these the Indians threw, layer by layer, silver ore, galena, and charcoal; the current of air passing into the holes, augmented the flame, and gave to it a very considerable intensity. The first travellers who visited the Cordilleras, spoke almost with enthusiasm on the impression left by the sight of 6000 fires, which lighted the ridges of the neighbouring mountains. The argentiferous matts thus obtained were refused in the huts of the Indians by the ancient process, which consisted in 10 or 12 persons blowing the fire by means of copper tubes, about 2 yards long, pierced at their extremity with a small hole." This fusion in the open air, and the refining of the matts thus produced by the blowpipe, well points out the infancy of the art at that time, and shows also how easy it is to extract a portion of metal from rich silver ores.

We have now said enough of those methods which are now of little practical utility to us, and will pass on to the methods which are actually in use at the present day. The processes employed at Freyburg will afford us the best example. At Freyburg, every sort of ore, excepting those ores contain silver—but some of them contain iron pyrites (mundic); others, galena; and others still, copper pyrites. These ores are divided into two classes—one of which is treated by the fusion with lead, or *rich fusion*; and the other, by the rough fusion, or *concentration* fusion. The ores destined to undergo the rich fusion, are roasted, then fused with or without the addition of lead, according to their nature; by these means, an argentiferous lead is produced, which is cupelled. The ores submitted to the rough fusion are too pyritous to be exposed to the above treatment. They are fused directly, with the addition, if necessary, of pyrites, which, by its fusion, facilitates the union of the metallic products in the matts produced. This matt, or regulus, represents a new ore, richer than the preceding, which may be roasted, and submitted to the treatment with lead. It must be well understood, that if the ore itself were too pyritous, a previous roasting would be not only useful, but even indispensable, to the future concentration, because this roasting would get rid of an excess of pyrites, which would occasion too great a produce of regulus. In the two fusions already pointed out, the distinctive character is not with the preliminary roasting, but in the nature of the matts, which are plumbiferous in the rich fusion, and pyritous in the concentration fusion.

The following is a table of the manifold operations these processes require, in order that all available matter shall be made serviceable:—

1. *Rough Fusion.*—This operation is effected with pyritous mixtures—the produce is a regulus, essentially formed of argentiferous sulphuret of iron.

2. *Roasting of the First Matt.*—This operation has, for its object, the disengagement of sulphur, and the conversion of the iron into oxide, which compound has the property of being a useful flux.

3. *Fusion with Lead.*—This process is executed on ores rich in galena, to which are added the preceding matts. When this operation is well made, argentiferous lead, copper regulus, and a slag, containing all the oxide of iron, are the products.

4. *Cupellation of the Silver-lead.*—This process is employed in the separation of the silver, and in the production of litharge, which, by its reduction, furnishes marketable lead.

5. *Roasting the Copper Regulus.*—This process, which is also employed in the treatment of copper ores, leaves oxide of copper as a fixed, and sulphurous acid gas as a volatile, product of decomposition.

6. *Fusion for Blach Copper* gives black argentiferous copper and ferruginous slags.

7. *Liquation of the Argentiferous Copper.*—This peculiar operation is employed in the separation of the silver and copper.

In our next Journal we will describe at length all the above operations.

[*To be continued in next week's Mining Journal.*]

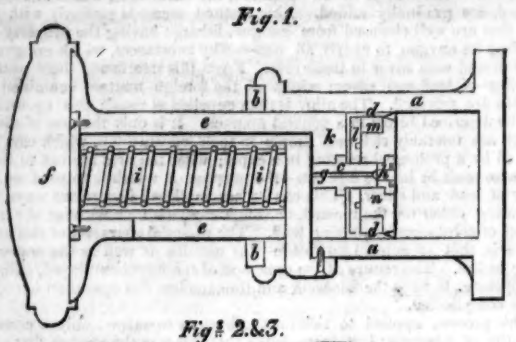
SMELTING IN SOUTH AUSTRALIA—THE PATENT LAWS.—By the papers from Adelaide, we are informed, that petitions had been presented from Messrs. C. M. Penny and W. Owen, for a patent grant for a new process of smelting copper ore; on which a very interesting discussion arose, the speakers generally evincing much anxiety to forward the inventor's views. No powers, we believe, however, yet exist with the Colonial Government for the granting of a patent, as hitherto they have always been taken out in London, and a colonial patent has included the whole of the British colonies. The difficulty of going through a necessary process for securing the invention to themselves, can, of course, be got over, by Messrs. Penny and Owen sending the necessary instructions to London. It will be a curious feature in the history of smelting copper ore, if a superior method should have been discovered by an inhabitant of South Australia, where, although the ore is so bountifully distributed, smelting has never been carried out; while the system adopted in this country has scarcely undergone any improvement during the past half century, although different plans have been, and are still being, experimented on.

IMPORTANT CASE—ESCAPE OF GAS FROM ALKALI WORKS.—A case, which has excited considerable interest in the neighbourhood, was tried at South Shields, before H. Stapleton, Esq., and a jury. It was an action brought by Mr. W. T. Thompson, a farmer, to recover two sums, of 20*l.* and 9*l.*, the amount of damage alleged to have been done to his crops from the escape of muriatic acid gas, from the Weston Alkali Works of Messrs. Swinburne and Co., at South Shields. The jury having examined the premises, the plaintiff's witnesses proved, that they saw the vapour arise from the works, float along the air, and settle on the crops; and others proved the extent of damage done, which amounted to the above sums. Mr. W. Chater, for the defendants, said he was instructed not to interfere on technical objections, which he could have done, but to let the case rest entirely on the merits alone; and he was convinced his clients would be gainers, in proportion as the case was searchingly investigated. He stated, that in February, 1847, the defendants had, at considerable expense, erected an apparatus, invented and patented by Mr. Bell, of the "Don" Alkali Works, and for the license to use which they paid an annual sum. He described the apparatus, which he said secured an unlimited supply of water—one pint of which absorbed 418 pints of gas, and it was impossible any could escape. He called, as witnesses, the men who had the charge of the apparatus, and those who worked about the premises, who swore there had been no escape of gas since the erection of Mr. Bell's machine—that, if there was any escape from the furnaces, the men must be driven from their work, as they could not withstand the fumes; and Prof. Johnstone proved, that he superintended the erection of the works, and Mr. Bell's apparatus, which was then employed, and which he considered in good working order, and sufficient to prevent any annoyance. The judge summed up, and the jury, after retiring about 20 minutes, returned a verdict for the defendants.

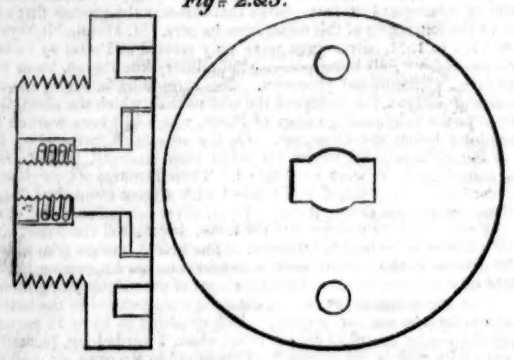
WEBSTER'S PATENT ATMOSPHERIC BUFFER.

[Specification of patent granted, 19th Aug., 1847, to James Webster, of Sneinton, Nottingham, engineer, for an atmospheric buffer, to be applied to carriages, and other vehicles, travelling on railways.]

Fig. 1.



Figs. 2.&3.



This invention has for its object the substitution of the power of the atmosphere, in the place of those mechanical arrangements and adaptations now commonly made use of, in the construction of buffers for railway carriages; and the arrangements adopted by Mr. Webster for carrying his invention into practical effect, appear to be well suited to the end proposed—that is, as far as we may judge from his own statement. It must, however, remain with the practician and the railway economist to decide how far it may be superior to, and better suited for, practical purposes, than the buffer in common use, or to those plans which have been formerly proposed for working buffers by atmospheric action. The description of the invention runs as follows:—*Fig.* 1 exhibits a longitudinal section of the buffer; *a* is a strong cylinder, which is to be securely fixed to a carriage, so as to come in the proper position, and in place of an ordinary buffer now in use; *b* is the cover of the cylinder; *c* is the piston, working within the cylinder—*d* being a cupped leather, preventing the air passing in that direction; when the air is being compressed in the cylinder, this cupped leather, *d*, is held between the parts, *k* and *l*—they being held together by means of a pin; the cupped leather, *d*, is caused to fit the cylinder, more or less closely by means of a piece of vulcanised, or otherwise converted, India-rubber, *m*, which is retained in its place by a nut, *n*, which screws on to the end of the piston, *c*, as shown—so that the parts, *l* and *n*, being held stationary, and the piston, *c*, turned in one direction, the parts, *k*, *l*, and *n*, will be brought together, and the cylindrical surface, *m*, of India-rubber will be forced outwards, expanding the leather, *d*; or, if the piston, *c*, be turned in the reverse direction, the cupped leather, *d*, will be allowed to contract; *e* is the piston, having the buffer-head, *f*, fixed thereon. In the piston, and through the end thereof, is a passage, *g*, closed by a valve, which is pressed into its seat by the spring, shown at *fig.* 2. There is a spring which tends to force the piston back—so that it may be ensured standing correctly, even should some of the air escape, when in a state of compression; this spring also acts in aid of the air as an elastic resistance of the piston. By this arrangement, it is evident that, when the buffer head is pressed on, it will drive the piston into the cylinder; and this compresses the air, and offers a very elastic buffer; and the strength of the elastic resistance will increase as the compression becomes greater; and, when the buffer head is released, the air, assuming its natural state, will drive back the piston; but, in the event of any air having escaped, when it is in a state of compression, the spring in the piston will return it correctly—the valve through the piston giving way to allow the air to enter freely.

Patent-office and Designs Registry, 210, *Strand*, *Feb.* 17.

THE COMBUSTION OF GAS AS A MOTIVE POWER.—A report was lately made to the Paris Academy of Sciences, on a new motive power, or "gas-propeller," the invention of the late M. Solligue, as long since as 1844. It consists of an iron cylinder, bent up in the form of a U—one end is closed; water is poured in to a certain height, and in the open end is placed a piston and rod, in the usual manner. On introducing any explosive gases over the water, in the closed end of the tube, and effecting their combustion, the resulting gases press, by their sudden expansion, the liquid on which they rest, and force up the piston to a certain height, which is again depressed by the cooling and condensation of the gas, and the atmospheric pressure on the piston. A regular reciprocating motion is thus obtained, which, of course, can be applied to every description of machinery. In closely experimenting on this principle of motive power, it has been found, that eight volumes of air, and one of gas, obtained from the decomposition of water, by passing steam through cylinders, filled with red-hot charcoal, consist of hydrogen, 66; carbonic oxide, 28; carbonic acid, 8. This gas can be manufactured for one-fifth of a halfpenny per 140 quarts, which is considered equal to 8 cubic inches of steam at one atmosphere pressure, and costing one halfpenny and three-fifths. The inventor found, that 35 quarts of gas, and 280 quarts of air, gave an explosive force equal to 125 tons, and 2400 explosions can be made per hour. The fuel required for 24 hours' consumption, to produce the above effect, would be 36 cwts. of coal; while that for a steam-engine, of equal power, is 13½ tons, giving, on comparison, for expense of fuel, seven to one in favour of the gas-propeller. The economy also of wear and tear is greatly in its favour—the weight for a steam-ship of the line would only be about 20 tons, and the cost from 3500*l.* to 4000*l.*

HOROLOGICAL TELL-TALE.—Mr. Biram, of Wentworth, the patentee of an "anemometer," for measuring the current of air in mines, has forwarded to the *Mechanics' Magazine* a description of a tell-tale for steam-engines, or large establishments where it is necessary to ascertain if the parties employed are regular in their attendance at night, or in the absence of the managers. It consists of a case, containing a time-piece on the axis of the fusee, on which a drum revolves in contact with a proper marker. Round this drum a properly printed registering paper to last a week is fixed, on which would be marked the information required at any point of time during the seven days. The uses to which this tell-tale may be applied are various. If, as a watchman's clock, it may be used by several people who are required to be at a certain spot, at certain or uncertain times, on pressing a stud, which acts on the marker, he should be required to make a memorandum of the time by the clock; these memoranda given to the inspector at the end of the week, and if the marks on the paper did not correspond with the return, a false return would be detected. In an establishment where there were a number of individuals, if they were all required to sign their names, and press the stud, it would indicate the exact time between the entrance of the first and last. It might also be applied to registering the performance of steam-engines or other machinery, by so connecting it, that the marker should register on the drum after a certain number of strokes of the piston, or otherwise, as might be arranged.

LAUNCH OF THE IRON NEW BULL FLOAT LIGHT-SHIP.—On Monday last, this vessel, full rigged, was launched from the yard of Messrs. Gibsons, Clifford, and Brown, iron ship-builders, Groves, in the presence of the Buoyage and Beaconage Committee of the Trinity House, and a large number of spectators. She has two water-tight bulkheads, and consequently three water-tight compartments, is round sterned, and 120 tons admeasurement, is clinker-built, and double rivetted on the longitudinal joints to light water mark.—*Hull Packet.*

Original Correspondence.

PRESENT STATE OF THE IRON MANUFACTURING DISTRICTS.

SIR,—Being merely a looker-on in the world, I was induced, the other day, to take a trip into a large iron manufacturing district, just to see and hear what was going on, with respect to the recent reductions in the wages of the operatives. I candidly tell you why I wished to gain some personal knowledge of the matter. It was this: a short time ago, I accidentally met with a *Review*, printed in 1824, containing some very strong remarks on the subject of "over production," and "reducing wages;" from which publication I will give you a few extracts—not, however, because I am fully satisfied of their correctness (which, at present, I really am not), but in the hope that some one, competent to the task, will favour the public, through the medium of your Journal, with a refutation, or explanation, as to the assertions and statements alluded to being correct, or incorrect, with the why and the wherefore; and I make the request, because I think that something valuable, as to principles and facts, may be elicited by so doing, that would prove alike beneficial to employers and workmen, not only in the iron trade, but in all manufacturing pursuits whatever:—

1. "No manufactures ought to be tolerated which do not pay the operatives the wages of subsistence, and which afford no profits to their proprietors, beyond the *exactions* and *cribbing* from their dependent operatives."

2. "Foreign trade is salutary only when kept by the State within its object of importing desirable foreign products, in exchange for *superfluous* native ones; and it *ought* to be controlled, when its transactions interfere with native wealth and home industry. It is advantageous to those concerned in it *only* when supply *follows* demand; but when supply *precedes* demand, and goods are sent on speculation, prices are unduly *lowered*, the exporter is ruined, and the trade disturbed or destroyed."

3. "One of the greatest evils that has hitherto attended the manufacturing business, has been the reduction of *wages*, instead of *time*. The moment the *buyers* are scarce, manufacturers offer their goods at reduced prices, in order to meet their various pecuniary engagements. When the prices are reduced, they, in self-defence, *reduce* the wages of their workmen—being *thus* enabled to manufacture the *same quantity* of goods as they did before the reduction, the warehouses of the *buyers* are filled with merchandise, for which there is no market; and the evil is thus increased, until the working classes do not receive sufficient to sustain animal life, without appealing to the poor rates, or to the precarious boon of private charity—thus is the *artisan* and the *able labourer* driven to share the funds originally intended for the use of the "poor and needy alone;" thus are thousands of *efficient* working men forced, as it were, into *pauperism!*—never, perhaps, again to be reclaimed."

Now, with respect to the first extract, is it any way possible, under the present institutions of society, to beneficially interfere in the matter, either by the State, or by individuals?—if not, we must be content to go on as usual, however inconvenient or bad the system may be. And as regards the other two quotations (for I imagine that one answer will do for both), would manufacturers gain as much by reducing the *time* of their workmen, and not lowering the *price* of their results, as by reducing *wages*, and selling their goods so much *cheaper?* If a manufacturer should reduce (say) his iron 20*s.* per ton, and then lower the wages of his men in the same ratio, what advantage would he gain by the transaction? The thing appears to me, until I am in possession of more information on the subject, quite ridiculous. The *men* lose their wages, and the *employer* gets nothing by the reduction, except, perhaps, placing himself in the unenviable position of having to give considerably *more* of his iron than usual, to cover his rents, taxes, and other fixed payments!

If any gentleman, versed in manufacturing statistics, would be kind enough to give some good, practical remarks, as to the above points, he would be rendering a very important service to both operatives and employers; for if it can be made to appear, that a reduction of *wages* is of no benefit to masters (and, from the above reasoning, it really looks something like it), no doubt there are many clever and able men amongst them, that would quickly hold up their hands against the practice, and bear stock, oh the reduced scale of working, until markets came round, or *buyers* warehouses became empty; and if, on the contrary, it can be shown on principle, that reduction in *wages* cannot be avoided, without injury to masters (not in particular cases), then the generality of workmen will, on being given the "reason of the thing," no doubt, see the necessity of submitting to their fate, hard though it may be; and thus by, as it were, bringing "TRUTH down from heaven," for the enlightenment of those who "sit in darkness," we may, probably, avoid many of those pests and plagues of manufacturing districts—the STRIKES of workmen, and the *reductions* of masters on the score of wages.—PROMETHEUS: *Birmingham, Feb.* 14.

IRON MINES OF NOVA SCOTIA.

SIR,—The enclosed letter, from my friend, John Ross, Esq., of Truro, Nova Scotia, will, no doubt, prove interesting to many of your readers. There seems no reason to doubt, that these newly-discovered iron mines, which are described in the subjoined letter, will become, in the hands of a company of shareholders, as lucrative a speculation as the celebrated Burra Burra Copper Mines have recently been. ROBERT MUSHET.

Coleford, Feb. 15.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—In your valuable paper, of the 17th of April last, you made mention of the "mining prospects of Nova Scotia," with reference to the deposits of iron ore recently discovered at Londonderry, in this province. I now have the pleasure of sending you a copy of Dr. Rue's report and examination of those ores, trusting that you will find it convenient to give the document insertion at an early day. I also put in the mail a small pamphlet, containing Dr. Gesner's geological report, to which the same article refers. As this document is rather lengthy, perhaps it would be too much to expect, that you could give it entire; I hope, however, you can give such extracts from it, as will convey some idea of the vast extent of these ores, and the facility by which they may be obtained. Since Dr. Gesner examined these mines, their extent has been more fully developed, as will appear by the following extract of a report, drawn up by John Wm. Dawson, Esq., of Pictou, in September, 1846:—

"The Londonderry Mountain is a portion of the southern scope of the Cobequid chain of hills, which, in this part, consist of thick beds of grey quartz, rock, with dark-coloured slate, and greenstone—the whole either vertical with east and west (magnetic) strike, or dipping at right angles to the southward. * * * In the bottom of the deep ravine of the Folly river, the vein appears in the form of numerous inconsiderable strings of ferruginous limestone, named *ankerite*, with a little specular iron ore, filling small fissures in the quartz rock. Leaving the bed of the river, and ascending the hill eastward of it, a small excavation, less than half a mile distant from the river, has exposed a portion of the vein, showing a width of 2 ft. of specular ore, and about 4 ft. of ankerite; and on a lot* still further eastward, a mass of specular iron, several yards in width, has been disclosed. Further eastward, about one mile distant from the Folly river, and nearly on the highest part of the mountain, where the outcrop of the vein is covered by only 2 ft. of soil and gravel, larger excavations were made. One of these, a north and south trench, 17 yards in length, exposed a mass of ochrey ore, with a mixture of micaceous iron ore, and some ankerite, and did not, at either extremity, reach the wall of the vein. Northward of the extremity of this trench, a space, 28 yards in width, not excavated, showed a little quartzite projecting above the surface; and beyond this another excavation, 9 yards in width, exposed large masses of red ankerite, with numerous disseminated plates and nests of micaceous ore; and many fissures, from 6 in. to 1 ft. in breadth, filled with red and micaceous specular iron ores. In three other excavations, on this lot, one of them a considerable distance northward of that last mentioned, ankerite and iron ores, arranged as above described, and without any mixture of quartz, were disclosed. * * *

"From the facts above stated, it is evident that the portions of the vein yet uncovered are relatively very small, and probably give a very inadequate idea of the real magnitude of the deposit. The ore, or its produce, could, if necessary, be easily shipped from the mouth of the Folly river, seven miles distant; there is at present a good cart-road to this point; and the intervening country is level, and would afford every facility for the construction of a railway. The belt of low land, extending from the base of the mountain to the shore of Cobequid Bay, is occupied chiefly by strata of the carboniferous system; and on the banks of the Folly river, two beds of bituminous shale, with small veins of coal, are exposed. * * * In conclusion, I may remark, in reference to the deposit shortly described, that, from a consideration of the abundance and purity of the ores contained in it, their association with a mineral so valuable as ankerite—in their reduction, their accessible situation, the facility with which they can be extracted, and the abundance of fuel procurable in their vicinity, as well as the circumstance, that carboniferous deposits exist, both to the northward and south of the range of hills in which they are contained—it is impossible to entertain a doubt that the iron ores of Londonderry Mountain are of very great economical and commercial value. "JOHN W. DAWSON, *Sept.* 10, 1846."

The whole of these lands, described both by Dr. Gesner and Mr. Dawson, are owned by two other individuals and myself: we are desirous of organising a company, with sufficient capital, to work the mines; and I will visit England for that purpose in the month of March next. The Halifax and Quebec Railway—the exploration of which has just been brought to a close, by which a good and practical line is ascertained to exist—passes through these deposits, and intersects the lands attached to them (6000 acres) a distance of three miles. JOHN ROSS.

Truro, Nova Scotia, Jan. 26.

* This is the deposit of specular ore, to which Dr. Gesner's report refers, as being on the land of William Slack, esq.

THE HYDRAULIC TELEGRAPH.

SIR,—Permit me to ask one question concerning the hydraulic telegraph—viz.: how is the atmospheric pressure neutralised, when one end of the pipe, or telegraph, is placed many feet higher than the other—say between towns, where the difference of elevation is 500 ft.? There would, in this case, be a column of water to be balanced, equal to a pressure of 214 lbs. on the square inch area. If this can be obviated, then I must say, there has been discovered a new and very imperfect principle in hydrostatics. I hope, therefore, the patentees of the telegraph in question will be able to give a satisfactory reply to this apparently fatal objection to the general use of their clever invention.—R. S.: *Abergavenny, Feb.* 14.

HYDRAULIC TELEGRAPH, &c.

SIR,—I am very much surprised at the commentary in your last on my remarks on the "hydraulic telegraph;" all I said was, that I had seen a similar proposition, "long, long ago," illustrated by a working model. I did *not* depreciate the merits of a principle, certainly recognised from the earliest times, in this its modern application. I acknowledge my ignorance of the relative merits of the respective parties, nor am I even aware of the amount of merit and novelty of the claimant under the patent. I am not an arbiter in this matter—*Palmam qui meruit ferat.* I am not disposed to be critical; otherwise, I might reasonably doubt the propriety of the term *hydraulic* here. It seems to be connected with the question of hydrodynamics. I am still of opinion, that formidable difficulties will be found in its application to considerable or remote distances. Hydrostatic pressure will be a most formidable antagonistic power, and must be well weighed and considered. It had been remarked, that water was *inelastic*—I said, simply, it was *not* an inelastic fluid; without at all inferring, it would materially interfere with the invention under consideration. It is erroneous to say, that I desire, in any way, to tamper with the march of discovery—above all, the application of its powers. My motto is "onward"—*che sara sara.* J. MURRAY.

Portland-place, Hull, Feb. 16.

UNIVERSAL DELUGE.

SIR,—Your correspondent, with a *courtesy*, it is to be hoped, peculiar to himself, has denounced any forthcoming attempt on my part to prove a universal deluge, from the facts of geology, as something like *lunacy*; or, at least, an attempted excursion to the moon. I shall not be deterred from my appeal to the facts confirmatory, in my mind, of this great phenomenon, by any sneer coming from that quarter, which I treat with the contempt it deserves, and that signature will not, henceforth, receive the slightest notice from me. Never in the course of my reading, tolerably extensive by the way, have I ever met with so rare a specimen of imperious and haughty dogmatism.—J. MURRAY: *Portland-place, Hull, Feb.* 17.

WHEELER'S PATENT EQUILIBRIUM VALVES.

SIR,—In reference to the observations of your Glasgow correspondent, "P. M. D.," in the *Mining Journal* of Feb. 5th, I must tender that gentleman my thanks for his candid remarks—which, however, would have been of the utmost importance, if substantially correct. One essential point in which the valve described in the second part of my specification (see Journal, Jan. 22) differs from that of Mr. Cumming (*Glasgow Practical Mechanic*, vol. ii., page 137), is, that in the latter, the equilibrium piston has no motion, except a limited one, through the length of its cylinder, and its counteracting force is exerted in a *diagonal direction*; whereas, in mine, the piston partakes of the sliding motion of the valve itself; and the counteracting force is exactly in the *opposite direction* to that of the steam, which presses the valve to its rubbing surface. A communication is formed between the exit steam port, and the top or back side of the piston—so that, in a locomotive engine, at high velocity, any amount of back pressure, or reaction, is immediately counterbalanced.

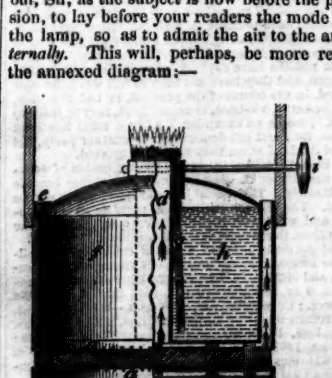
The slide-valve, described as my first improvement, is as much *unlike* that of Messrs. Rennie—(see Bourne's *Treatise on the Steam-Engine*, p. 200), as it is possible for two equilibrium valves to be. The latter, as well as those made by Messrs. John Penn and Son, for their oscillating engines, are valves with a hollow space at the back, communicating with the condenser, so as to form a vacuum in that space, to counteract the effect of a vacuum existing on the under side of the valve. If I am correct on these points, such a plan is only available in condensing engines. Now, my equilibrium valve, which "P. M. D." has compared with the foregoing, is adapted for high or low-pressure engines, and has a contrivance to compensate for the reacting pressure of exit steam in the blast-pipe. This valve has an additional sliding plate, placed over the slide, travelling on a fixed surface, parallel to that on which the valve moves, and may be compared to another valve and steam-chest, placed on the top, or back, of the original one—the valves are firmly bolted together, the steam being admitted between them, and both partake of the sliding motion. I forbear further detail now, hoping to be permitted, at a future time, to present "P. M. D.," and your readers, with a more complete description, with illustrations, through your valuable Journal.—EDMUND WHEELER.

Basingstoke, Feb. 14.

SAFETY-LAMP WITH ARGAND BURNER.

SIR,—A paragraph appeared in the *Mining Journal* of last week respecting a paper, which was read at the Geological and Polytechnic Society, on the "safety-lamp," by the Rev. W. Thorp, who, as it appears, has introduced the "argand burner." I beg leave to state, that this improvement was suggested by me about eight months since; and, at the same time, I informed not only the Editor of the *Mining Journal*, but other friends (who, without doubt, will corroborate this statement), that the argand burner could be safely and successfully applied to the safety-lamp. It was my intention to try its merits on the first available opportunity; but, Sir, as the subject is now before the public, I beg, with your permission, to lay before your readers the mode in which I propose to construct the lamp, so as to admit the air to the argand burner and the flame *externally*. This will, perhaps, be more readily understood by looking at the annexed diagram:—

DESCRIPTION.



a—A false, or double, bottom.

b—Small brass pillars, to which the two rings, *a*, *a*, are united.

c—Wire gauze, which is soldered, or rivetted, around the incision, so as to admit air to the burner.

d—The argand orifice.

e—Four small tubes, to admit air to the flame externally.

f—Section of the lamp.

g—The cotton wick.

h—Oil receptacle.

i—A small screw, to raise the cotton

The upper part of the lamp should be made on Dr. Clanny's principle; and the wire gauze, *c*, should be made of a sufficient depth, between the two rings, to admit a large amount of air to supply the flame, both internally and externally. It is not essentially requisite that the part, *c*, should be made of wire gauze. If the false bottom be made of either brass or copper, and finely perforated, it will be equally effective. It will be readily understood, that the air is admitted through the wire gauze, or other perforations as suggested, to support the combustion with perfect safety—consequently, a more intense light will be the result. This false bottom should be so made, that it could only be taken off by persons employed to clear the lamps. If the lamp is made in the manner I propose, no glass chimney, which is so highly objectionable, would be required; and, in order to render Dr. Clanny's application more secure against danger, a transparent sheet of "talc" should be placed around the external surface of his glass tube; if then, by accident, the glass tube should be broken, the flame would be shielded, and an explosion avoided. If these suggestions are properly carried out, I feel confident that the "safety-lamp" will be rendered more effective to the miner than the common candle, and these terrific explosions, in a great measure, obviated.

Fleet-street, Feb. 14. G. SHEPHERD, C.E.

THE SAFETY-LAMP—SIR HUMPHREY DAVY AND DR. CLANNY.

SIR,—It is pleasing to find that, contrary to the general spirit of this iron age, there is a disposition to reward the illustrious living with tangible acknowledgments of merit, as well as to honour the revered names of the mighty dead, who have left the philanthropic and scientific monuments of their genius, as legacies to posterity. As a people, who once honoured the bards that touched the chords of the natural and acquired affections, to which great violence has, in modern days, been done, we are too prone to

"Deny, till death, the meed to merit due,
And honour only in the silent tomb."

Far be it from me, Sir, to cast a shadow of a shade of unworthy reflection on the late manifestation of a better spirit, where "envy will merit as its shade pursue;" but it will, perhaps, suggest itself to those who have read the life, as well as the last days, of a philosopher, that the late president of the Royal Society, the analytical chemist, and the discoverer of new metals, was the last man in the world to appear as a jackdaw in peacock's feathers. All his discoveries were founded on experiment and induction. His safety-lamp, in particular, was the result of the observation of the fact, that flame will not, of itself,

pass through wire gauze. The lamp itself having been, in the inventor's life time, called the "Davy," is some proof in point. Priority of invention is, however, a curious subject—whilst the thinking few will ever, in the same age, be reflecting on very nearly the same things—as monuments, history, and the unwritten book of human experience, whose name is tradition, perhaps too well attested. It is too late, however, for the living ass, called public opinion, to kick the dead lion! As citizens of the world, I trust we are above clanship: but let us not exalt our living philosophers on the down-trodden ashes of the dead. It is true, however, that the literary and scientific lions become, so to speak, the *foci* of all eyes, so that it takes some time to establish the just rights of more humble pretensions. There is something in a name, that dazzles the beholder; and it is well that the claims of consequently retiring merit should ultimately receive the meed that is due to its industry, sagacity, and worth.—A. T. J. Martin: *Penzance, Feb.* 14.

A PROBLEM.

Sir,—Suppose (P) pounds raised 1 ft. per minute, represented the power required to roll a certain cylinder over a certain uniform, inflexible road, at a given rate; also, suppose (P+x) pounds raised 1 ft. per minute, represented the power required to roll the said cylinder, at the given rate, over a certain uniform substance, placed equally throughout upon the said road, the said substance being crushed thereby. *Question.*—Would the value of x be less the greater the diameter of the cylinder, or the greater the value of P, supposing that the road, substance, and rate of motion remained the same? *Question* 2.—Suppose two cylinders, of equal length and weight—one composed of lead, and the other composed of some material of less specific gravity—then would less power be required to perform the said work with the latter cylinder (because of being the greatest in diameter), than with the former one? Mathematical proof required.—[*Note.*—It is a well-established fact, that the greater the diameter of the wheels of a carriage (the axles remaining the same), the less the power required to drag that carriage over any obstacles that the wheels may come in contact with; and the purport of this problem is, to determine whether the same is not true (within certain limits), with respect to the power required to drag a carriage over any substance, that would be crushed by the wheels thereof passing over that substance. *Note* 2.—If the problem should be objected to, in consequence of having to consider the friction that the said substance would occasion to the surface of the cylinder, while, or after, being crushed; such objection may be obviated, by supposing, that the cylinder moved over the ends of closely-packed moveable rods, of equal dimensions, and composed of the same material as the road itself (which, suppose, for example, was iron), and so contrived, that they would move perpendicularly to the horizon, each equally by the same pressure (the rods being supposed to be connected with such machinery, as would cause them to resist a certain pressure before the cylinder passed over them), and cause jointly as smooth a surface, when pressed vertically under the cylinder, as the road itself—then moving those rods to their limit, may be supposed to represent the crushing of the said substance.] —J. W.: *Feb.* 17.

The Veins of Old England.

Old England may boast of her walls of wood,
And her Channel's broad fosse, as the cause of her strength,
By which she 's the din of her foes withstood,
And carried her commerce the Ocean's length.
She should vaunt, that pervading her rocks she has stores
Of treasures exhaustless—her matchless ores.

'Tis said, in the land where luxury reigns—
The sleepy South, with its torrid sun—
Where the Jaguar lurketh in leafy plains,
And swarthy man in the day dreams on;
'Tis said, that the Briton hath nought to boast,
But a murky sky and a rock-bound coast.

But ask, when in History's vista afar,
When the flushing wave erst bore a sail,
What tempted the gallant ship to war
With the flooding tide and the sweeping gale?
What lured the bark from its distant shore?
Albion's white cliffs, or her precious ore?

The fulcrum of Briton's rising power
Was founded at first on her glittering veins.
Her pulse is her copper and silver, that shower
On Afric', on Ind', and Columbius' plains;
And back from the regions of fruit and gold
Bring balms, and spices, and riches untold.

Too long hath her treasure neglected lain,
A gem unwrought in the British crown.
Such riches were burried in haughty Spain,
When her foreign conquest bore her down;
And, regardless of home for empire's spell,
Her mines, with her wealth and her commerce, fell.

The lords of Old England heed not the Mine—
The Railway King, he regardeth her not.
The Prince of Commerce doth scarce him incline
To hear of her name in his presence, I wot.
Yet her vaults still re-echo the shout, I ween,
Of long live our princes! and God save the Queen!!

In safety she stands 'mid the ruins of trade—
For thirty centuries braving the tide.
Like the rock o'er the ocean, she lifts her head:
Ephemeral baubles cower at her side;
And, firmly and safely built on her veins,
The structure of England unblemish'd remains.

Long may her beacons assault the dark sky,
Despising false glory, dominion, and strife;
For wealth may her sons on her veins long rely—
True blood of her system, true source of her life.
And long will her proud flag float in the breeze,
The pride and the wonder of all distant seas.

LITERARY NOTICE.

A Plan for Additional National Defences, respectfully submitted to Field-Marshal his Grace the Duke of Wellington, K.G., Commander-in-Chief, &c., &c., and her Majesty's Ministers. By William Malins. London: J. Ridgway, Piccadilly; and Effingham Wilson, Royal Exchange.

Deprecating, as we do, the various attempts which have been lately made, and are still making, to sound the tocsin of alarm throughout these realms, of an intended invasion by a neighbouring state, we briefly notice the appearance of the above pamphlet, from the novelty of the methods of defences therein proposed, and which, certainly, were there any of the presumed danger to be apprehended, would add materially to the invulnerability of our seagirt isle, in those parts of the coast where she is not naturally defended by cliffs and sunken rocks. Without attributing motives to any party individually, we cannot but express an opinion that this cry for additional defences generally, emanates from parties connected with the army, who feel anxious to create an excitement, for the increase of the service, in order either to obtain promotion themselves, or for their relatives or descendants. Never, perhaps, was there a time when there was less to dread from France than at present; the Senate completely divided against itself, and, of course, each party stoutly supported by its partisans without, her rulers will have quite sufficient to guard against the evils of another intestine commotion, instead of insanely harbouring the most distant idea of carrying on a war of aggression against England, a successful hostile landing on whose shores is much easier talked and written about than carried into effect—to say nothing of the closer bonds of contact, which our altered state of commercial reciprocity has drawn around the two nations, and which manifestly points out, that the only means to real national and domestic happiness is to remain at peace; while we are under no apprehension but that, should any untoward event alter our present desirable position, old England would be found not to have been so sound asleep as some would make us believe, but that she would be roused into prepared action—aye! even at an hour's notice. For the comfort and information, however, of those who, from pusillanimity, or anxiety for military movements, are anxious to see our coasts more extensively fortified, we will briefly lay before our readers the plan recommended by Mr. Malins, which is—strongly fortifying the high water line all round the coast where assailable, more particularly the low shores on the eastern coast, and the south coast from Dover to Portsmouth. To effect this, he recommends a coast line of railway for artillery, troops, &c., by which a powerful brigade of 100 or 200 guns of the heaviest calibre could be concentrated on any point in danger, ready for boats, shipping, or steamers, as they came within range, few of which would remain afloat by the time they came near enough to land troops. The rapidity of motion on the rail would ensure this timely concentration, the artillery being conveyed four times as fast as the steam-boat, though favoured by wind and tide. This railway to be solely for the use of ordnance purposes, guarded by a parapet, and strong enough for carriages capable of resisting the recoil of the largest guns; moveable block-houses would be constructed, for the accommodation of the men on duty, and the moving field would form an economical, complete, and perfect means of defence for this island, while our navy is protecting our commerce and colonies all over the world. The author proposes that the dockyards should be secured, the railroads to Plymouth and Pembroke finished, and even those to Falmouth and the Land's End. The harbours of refuge at Dover, Dungeness, Seaforth, and Portland, should be carried on with vigour, and the electric telegraph laid round the coast, that instantaneous information could be conveyed to the troops all along the railway, and prepare them for concentration at any desired point. The whole of Mr. Malins's recommendations have been evidently well considered; and we repeat, if carried out, would render us impregnable. We do trust, however, that we may place some confidence in those at the helm, that they are too watchful for England's welfare to leave her in the unprotected state which is so often alleged; and that, even were there a *probability* of such attempts on the part of the French, they are better prepared than the advocates for increasing the army and navy would lead us to expect.

Wonderful Invention—Sewing Machine.—Messrs. Thimonnier and Maguin, of Villefranché, Rhone, exhibited an invention at the Royal Institution, which excited great interest—the principle of which was explained by Mr. Schmidt, and the machine was worked by Mons. Maguin: 800 stitches a minute can be made with ease, and their size increased or diminished on the instant, by turning a screw. It is impossible that human labour can approach to the nicety and precision of this machine, which will sew, stitch, and make edgings with the same movement. The patent is quite recent, having been signed only last week, and the Royal Institution is the first place where anybody has seen it. As Arkwright's invention did away with the distaff and hand-spinning, so will this one of the sewing machine entirely supersede (for good or for evil, we do not stop to inquire) hand labour.

Headache, Bile, Apoplexy, and Complaints arising from Impurity of Blood, Cured by Holloway's Pills.—The regenerating properties of this wonder-working medicine are so powerful, that all who suffer from disordered stomachs, indigestion, bile, sick headaches, dimness of sight, originating from the impurity of the blood, should have immediate recourse to Holloway's pills, which act so directly on the system that a few doses will remove every unpleasant symptom; thus preventing the danger of apoplexy, and the overflow of blood to the head. They may be taken by females of all ages with perfect safety, and their invigorating qualities soon restore the most nervous and debilitated constitutions to the enjoyment of good health. Sold by all druggists; and at Professor Holloway's establishment, 244, Strand, London.

THE BAROSSA MINES, SOUTH AUSTRALIA.

Sir,—I observe, in your Journal of Saturday last, a great discrepancy in the recent accounts of the *Barossa Mines*, and which, unless corrected, is likely to mislead the public, who are interested in this company, particularly those living at a distance from London, who may not have an opportunity of inquiring into the subject. The reports (three in number), as published in your Journal, confirm the existence of *rich ore*, containing from 30 to 48 per cent. of copper, 7 tons of which had been raised, worth 23*l.* per ton, equal in value to the bulk of copper produced from the two most favoured mines in South Australia; and considerable progress was expected to be made by November. The prospects, altogether, appeared to be very encouraging for the adventurers, considering the short time the ground had been opened. Your own correspondent is evidently too much in love with the "Burra Burra" Mines to report in favour of any others, as his statement proves by his remarks upon the "Greenock Creek" Mines (Barossa Company), which is entirely at variance with *facts*, as corroborated by the official report of the mining captain, to which I beg to refer you. I think, as the letter of your correspondent, without explanation, may tend to throw a damp upon the adventure, and prove injurious to those who have embarked their money in the purchase of shares, it is but due to them to have the *true* state of the concern before them, and which I believe we are in possession of by the report from Capt. Rodda.

London, Feb. 15. A Constant Reader.

BAROSSA RANGE MINING COMPANY.

Sir,—As a holder of a considerable number of shares in the Barossa Range Mining Company, I have read, with great surprise, the contradictory reports and conflicting statements respecting it in your paper of this day. A correspondent, purporting to write from Australia, gives you an account of the different mining companies; and, in an editorial note, you "direct with pleasure" your readers' attention to it; as you say—"so much of misstatement and vague assertion having appeared with respect to mining in that colony, an authentic report on its actual position, by one so evidently well qualified, must prove of general interest," &c. From this, Sir, it would appear that you consider the assertions of an anonymous scribbler of more importance than authentic documents officially signed; for in another part of your paper appears Captain Rodda's report of one of the mines of this company, and which so completely and satisfactorily disproves the assertion of your correspondent, that we are naturally led to suppose he had some unworthy motive in deceiving you.

That the real position of the company may be known, and that the public may form a correct judgment, I shall take the liberty of laying before you a few facts, as verified by Capt. Rodda's report, in juxta-position with the misstatements of your correspondent.

When the company was formed, a grant was obtained from Mr. Angas, giving us power to work for mineral over an extent of nearly 40,000 acres. In the works of Mr. Dutton, and reports of several others, especially Mr. Menge, who had geologically inspected the colony, the Barossa range of hills were pointed out as peculiarly favourable for mining operations. The company, therefore, first directed attention to the Barossa Mine, containing a section of 4000 acres; but, after a trifling outlay, the prospects did not warrant its continuance, and it was at once abandoned. At the present moment the company have three mines—Greenock Creek, Lynedoch Valley, and two sections adjoining the rich Kanmantoo. At present, the mining operations are confined to Greenock Creek. Your correspondent, who gives no date to his communication, says, referring to Captain Rodda, the company's agent, "He is sinking on some land *on* Greenock Creek, not belonging to Mr. Angas, but leased for his company; *they have not found any ore yet.*" On the fourth page of your paper of the same date, appears the official reports of Captain Rodda to the directors, respecting Greenock Creek. The first, dated June 2, states, that in several places he is getting ore, yielding 30 and 48 per cent. In one place, he especially refers to a lode worth 12*l.* per fathom—yielding ore worth 23*l.* per ton. In the next report, dated August 9, he also refers to different lodes, and says: "We have about seven tons of ore, which we intend to dress." In his last report, he talks of having "regular yellow copper ores, as rich and as promising as I ever saw in Cornwall." This is enough, I think, to show the ignorance of your informant on the matter he writes upon. He goes on to say, the Barossa Company is the least promising in the colony, because it is held on lease, while the other mines are freehold property. He also deeply regrets that any one should have given 25*l.* for the shares! With regard to the first, the veriest tyro in mining knows that every mine in Cornwall is held on lease, on payment of certain dues, the same as the Barossa Mines. It is true, the Australian Company purchased their lands at Reedy Creek, and gave for them 20,000*l.* The question of the policy of laying out this enormous sum in unpried mineral land, or of leasing 40,000 acres at a mere royalty, it is not my intention to enter upon. In regard to the prices of shares, of which your correspondent complains, let us, for a moment compare them. He wonders at the Australian reaching 12*l.* per share, and the Barossa 25*l.*

In Barossa Company, holding leased lands,	In the Australian Company, holding "fee simple,"
there were then 600 shares, which, at 25*l.* each, was valuing the whole company at 15,000*l.*	there were 20,000 shares, which, at 12*l.* each, was valuing the whole company at 240,000*l.*!
The Australian Company, your correspondent states (and which *I believe to be untrue*), have sunk 30 fathoms at Reedy Creek, without raising one ton of ore. I know "comparisons (as Mrs. Malaprop says) are odious;" and, therefore, in again placing the prices of each in juxta-position, it is far from my intention to undervalue or depreciate the property of the Australian Company; they have 20,000 acres of fee simple, and we have 40,000 leased, and we have also mines yielding good ore.	
In Barossa there are now 6000 shares, which, at 2*l.* each, values the company at 12,000*l.*	In the Australian Company there are 20,000 shares, which, at the market price of 4*l.* per share, is 80,000*l.* for the company's property.

Curious staticians may account for this enormous difference; but, I confess, in a matter of fact view, I cannot.

In conclusion, I am sorry to take up so much of your time; but, I think, no one can read the communication of which I complain, without seeing at once that the object of the writer was to uphold the local companies of Australia, and to depreciate those of London management.—*Cornhill, Feb.* 16. Argus.

AUSTRALIAN MINES.

Sir,—I was not only surprised but sorry to see, in the *Mining Journal* of Saturday, the 12th inst., some remarks upon the Australian and the Barossa Mining Companies, which, if true, would appear to come with exceedingly bad taste from an anonymous correspondent. I have been told, that the same remarks appeared in an Australian paper of a date of some months since; but, as you give them as from your own correspondent, I presume I have been misinformed upon this head. Be that as it may, the high standing of the directors of the Australian Company—numbering, among them, bankers, aldermen, and merchants of the City—should, at least, have taught a public journalist to act cautiously in adopting such information upon any but the surest proofs of its correctness. The libels—if I may so term them—against the Barossa, are proved to be false in another part of your paper, by the official report of Capt. Rodda, which really appears to me to be a straightforward, unembellished record of facts—there is no striving in it for effect; and I certainly feel the greatest confidence in its truth. I have been a shareholder from the commencement of the company. The original shares—24 only in number, of 500*l.* each—were taken up by gentlemen of the highest standing, some of them of rank, for the sole purpose of fairly trying some mineral lands leased to them by Mr. Angas.

Their first trial at Barossa did not promise much, and was, instead of money being uselessly expended upon it, wisely abandoned. The prospects at Greenock Creek appear to be good, though this is quite a supernumerary mine, taken up by Captain Rodda as a good spec, without being included in the original objects of the company. The South Australian Land Company, some time ago, discovered a mine upon their lands of Lynedoch Valley, and from it some rich ore was sold at Swansea; Mr. Angas, having a large tract of land immediately adjoining this mine, granted it to the Barossa Company, upon the failure of the original section of Barossa. The South Australian Company have also granted to Barossa *their original mine of Lynedoch Valley*; the deeds, or grants, are on their way to the colony—and the probability is, that when they arrive, Capt. Rodda, in addition to Greenock Creek, will have to take possession for us of a rich mine at Lynedoch Valley. The Barossa directors have also obtained two sections adjoining, and on the lode of Kanmantoo. So that, Sir, without expressing undue partiality, for I am a shareholder in others, I must confess there are few companies with more reasonable prospects of success than the Barossa Range. So far as I can judge, no unfair means have been taken to raise the price of shares, and the directors, I know, are directly opposed to their being "worked up" to a fictitious price. They believe they have a good mine, and are satisfied to prove it.—A Shareholder: *City, Feb.* 16.

[To this and the preceding letters we have only to remark, that the communication referred to was received by us direct from South Australia, on the day previous to publication, and was furnished by a gentleman in whom we have the most perfect confidence, and, we may add, whose position and high character would at once absolve him from the inference attempted to be drawn, of being influenced by unworthy motives.]

Mineral Wealth of South Australia.—One of the most prominent features in the mineral wealth of South Australia is the general diffusion of iron ores. The idea entertained by many sensible persons, that, in the absence of coal fuel, such treasures were unavailable, is at length about to be exploded by the establishment of iron smelting-works in the Mount Barker District, where large masses of iron exist in almost native purity, and possessing extraordinary malleable qualities or capabilities. We forbear, for the present, to state all we have heard on the subject of this new and highly important field of industry, to which we shall revert in due time. We can only say that the impressions prevalent in England with respect to this natural production of the province, are likely to be much surpassed by the realizations of the present period. The mineral lately found in the Mount Barker District, and alleged to be tin, is carbonate of lead, yielding a large per centage of ponderous, and a considerable portion of precious metal, as much as 90 ozs. of silver in the ton of ore being confidently reported. We believe no results have yet been certified, but a competent assayer has undertaken the requisite examination.—*Adelaide Observer.*

The Oak Farm Works, near Dudley.—It will be recollected that at the last meeting of the creditors of this firm, it was more than hinted, especially by Mr. Fellows, solicitor, of Dudley, that in all probability, notwithstanding Lord Lyttleton, Mr. Gladstone, and Sir S. Glynne, were content to guarantee the unsecured creditors 9*s.* 6*d.* in 1*l.*, the concern would ultimately be brought into a court of bankruptcy. It now appears, that Lord Ward, a considerable creditor, having refused to accede to the compromise, and legal proceedings having been commenced, a fiat of bankruptcy has been struck. At a meeting of the general body of creditors, held at Dee's Royal Hotel, on Saturday, a resolution was passed to the effect that they were still anxious to carry out the resolution of the former meeting, and recommended the retiring partners to pay the debt due to Lord Ward in full, as the difference to them would be barely 700*l.* The meeting then adjourned. It is difficult to anticipate the issue, as the success of Lord Ward might induce other creditors to make a similar movement.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

This Day ....Birmingham and Oxford Railway—Dee's Royal Hotel, Birmingham, at half-past Two.
Birmingham, Wolverhampton, and Dudley Railway—Dee's Royal Hotel, Birmingham, at Twelve.
Buckinghamshire Railway—Euston Station, at Two.
East Indian Railway—London Tavern, at Twelve for One.
Monday .....Royston and Hitchin Railway—Radley's Hotel, Blackfriars, at Twelve.
Shipowners' Towing Company—offices, at Twelve for One.
Tuesday.....North Wales Railway—Guildhall Coffee-house, at Twelve.
London and Blackwall Railway—London Tavern, at Twelve.
Windsor, Staines, and South-Western Railway—Nine Elms, at Twelve.
West Cornwall Railway—offices, at Two.
Reading, Guildford, and Reigate Railway—offices, at Twelve.
Sligo and Shannon Railway—offices, at One.
Wednesday...Phœnix Gas-Light and Coke Company—offices, half-past Twelve.
East Lincolnshire Railway—offices, at Twelve.
Cornwall Railway Company—Town Hall, Truro, at Twelve.
South Wales Railway—Paddington Station, at Twelve for One.
Tenby, Saundersfoot, and South Wales Railway—Gresham Rooms, Two.
English and Scottish Law Life Association—offices, at Three.
India and London Life Association—offices, at One.
Thursday ....Great Northern Railway—Albion Tavern, at One.
Southampton and Dorchester Railway—Vauxhall Station, ½-past Three.
Llynvi Valley Railway—offices, at One.
Irish Waste Land Improvement Society—King's Head, Poultry, at One.
East and West India Docks and Birmingham Junc. R'way—offices, Two.
Southampton Dock Company—offices, at One.
Friday .....Direct London and Portsmouth Railway—London Tavern, at One.
Caledonian Railway—Gibb's Hotel, Edinburgh, at One.
Cork and Waterford Railway—London Tavern, at Twelve for One.
United Kingdom Cattle Insurance Company—offices, at One.
Droitwich Patent Salt Company—King's Head, Poultry, at Two.
Norfolk Railway Company—offices, at One.
Saturday ....Waterford, Wexford, and Wicklow Railway—offices, at Twelve.
Eastern Counties Railway—London Tavern, at Twelve.
Whitehaven and Furness Railway—offices, at Two.
Norfolk Estuary Company—British Hotel, Cockspur-street, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

THE MUTUAL LIFE ASSURANCE SOCIETY.

The annual general meeting of the members of this society took place at the King's Head Tavern, Poultry, on Wednesday, the 16th inst., and was, as usual, largely attended.

Mr. Under-Sheriff Burchell in the chair.

Mr. Peter Hardy, F.R.S., (the actuary), read the minutes of the former meeting, the balance-sheets, and the following report of the directors:—

DIRECTORS' REPORT.

The directors, in presenting to the members their usual annual report of the progress and present condition of the Mutual Assurance Society, refer, with satisfaction, to its continued prosperity, and to the amount of new business which has been transacted during the 12 months just ended. Although the preceding year has been marked by great commercial distress, and by a monetary pressure, almost unexampled in the history of this great country—a pressure, which has, more or less, extended itself to every class of persons, whether engaged in mercantile or agricultural pursuits, or in professional avocations—yet the number of policies opened with the society, in the course of the year, is very nearly as large as the number opened during the preceding year, 1846: 124 new policies were opened in 1846, and 115 have been effected in 1847. This circumstance is the more satisfactory, if it be borne in mind, that scarcely any of these 115 new policies have been opened for commercial purposes, but were all, or nearly all, effected for the purpose of providing for a surviving family. It is this peculiar feature, which, in a great measure, distinguishes the Mutual Society from the greater number of the existing institutions for life assurance; and although, perhaps, this limitation of its business to transactions of a merely provident character may have, to a certain extent, the effect of rendering the apparent progress of the society less rapid than that of contemporary offices, yet there is, at the same time, no doubt, but that it contributes, more greatly than at first sight might be imagined, to the safety, and to the real progress and prosperity, of the society. The number of policies at present in force is 1050. The income of the society, from life premiums alone, now exceeds 25,000*l.* per annum. The new premiums, from additional assurances effected during the past year, exceeds 2500*l.*; and the actual realised capital of the society, on the 31st of December last, after allowing for every claim then known as outstanding, was 112,363*l.* 14*s.* 1*d.* The divisible surplus of the society (notwithstanding an increase in the mortality, caused by the unhealthy season, and by the malignant epidemic, which prevailed during the latter part of the past year) amounts to 58,852*l.* 14*s.* 1*d.* When it is borne in mind, that the influenza, which attacked the metropolis, and, indeed, most of the large commercial towns, and which prevailed even in rural and healthy districts, increased during the months of November and December, and a portion of January, with such irresistible violence, and was attended with such fearful consequences, as to carry death and mourning, more or less, into every family—and when it is more generally known, as it already partly is, that the older assurance offices have suffered this year more largely, and have lost more important sums than in any previous year which can be named—the members of this society may, indeed, consider, that they have reason to congratulate themselves, on a result so favourable as the production of an actual surplus of nearly 60,000*l.* This surplus is apportioned amongst the existing policies of the members, according to the accustomed mode adopted by the society. The following short table will exhibit the amounts of bonus added to the sums originally assured, under the ten oldest policies in the society now in existence:—

TABLE—Shewing the Additions actually made up to 31st Dec., 1847, to the Ten Oldest existing Policies, effected in the year 1834, with the Mutual Life Assurance Society.

1843—Age at Admission.	Sum Assured.	Annual Premium.	Amt. of Pms. paid without Interest.	Total Additions in 1847.
29	£1000	£24 0 0	£336 0 0	£244 16 0
42	2000	71 13 4	1003 6 8	608 0 0
50	2000	90 13 4	1269 6 8	690 16 0
47	2000	82 11 8	1156 3 4	657 16 0
52	1500	72 6 3	1012 7 6	538 6 9
21	500	9 12 6	134 15 0	109 10 0
53	2000	114 9 0	1595 0 0	829 0 0
35	1500	43 1 3	602 17 6	409 14 0
30	500	12 3 9	170 12 6	121 16 0
48	1000	42 10 10	595 11 8	331 4 0

These are the 10 oldest policies in force on the 31st Dec., 1847. Every policy in the society, on which *two* premiums have been paid, has a proportionate amount of addition placed to its credit.

In adverting to the increased mortality that the society encountered during the last year, which the directors have considered it their duty to do, they cannot avoid drawing the attention of the members more closely to, and congratulating them and themselves on, the admirable principle on which the Mutual Society is founded, which, at the end of every year, counteracts and adjusts, by means of an annual investigation, the effects of any unusually heavy mortality during that previous year; indeed, if any proof were required, of the advantages of a purely mutual society over those established on a more commercial principle, it would be found in the results of the operations of this society, yearly laid before these meetings: in the words of Professor De Morgan, a high authority on subjects connected with life assurance, it may be asserted, that "there is nothing in the commercial world, which approaches even remotely to the security of a mutual office."

The Chairman said, they had heard with attention the report just read to them by their excellent actuary. He had not the good fortune to be present at the drawing up of that document; but he could say, that it entirely met his individual sentiments throughout. He was very happy to find from the figures there stated—and he hoped they were equally happy to find—that, notwithstanding the great losses sustained by other life assurance societies during the past year, their office had suffered comparatively so little, and that the additions to the policies were so very considerable. The 10 oldest lives, reported last year, were, he was pleased to say, in existence still. The additions to the policies, if not so large as in the past year, were yet very considerable, and with which he trusted they would feel very much gratified. He would remind the meeting that the prosperity of a society like this depended on the increase of its members. They might, it was true, have increased the number of members to double the amount, if they had agreed to act like other societies, and give commissions for what was brought to them. (Hear, hear.) But, then, there would not be, as on their own principle, so large a profit—for there would be the commission to pay; whilst, on the principle of the Mutual Life Assurance Society, there would be that profit, since according to the sum each policy holder contributed was the addition made to his policy. (Hear, hear.) There must, therefore, be with them a natural desire to keep down expenses, seeing that the accumulations went on for the benefit of the policy holders. He was convinced that, if the real principles of the Mutual Life Assurance Society were known to the public, it would meet with a great deal more of its patronage. (Hear, hear.) He could not help thinking that the public was not yet alive to the principle of mutual life assurance. Had they obtained, as before stated, a larger number of members on the other principle—viz.; that of commission—every such additional policy would have taken away a portion of their profits; therefore, it was better to have 500 new policies, without commission, than 500 with a paid commission. He hoped this statement would convince the members of the necessity of exerting themselves to bring each one or more policies, as that was the only way to make the society more useful, as well as profitable, to the members; and they would thereby confer a great benefit on the public at large. (Hear, hear.)

A Member alluded to a policy he effected in another office, in 1830, on which he received a bonus of 31*l.* 2*s.* 6*d.*; and he stated that, in the same year, he effected one in a different office, and their bonus was 12*l.* The bonus added to his policy in this office (the Mutual), he was told by Mr. Hardy, amounted to 305*l.*; he had insured in this office for 1000*l.* in 1834. (Hear, hear.) He considered that this society was not sufficiently known to the public. The name of "Mutual Life Assurance" was now adopted by many other offices, and there ought to be some method taken to distinguish the true one.

A Member said, there had been only three or four offices at first, which were on the mutual principle—the Equitable was a mutual—the London Life Association was another; but they never assumed the title. This was the first office that boldly assumed the term "Mutual." (Hear, hear.)

Mr. Matthey wished this mutual office was known much more than it was, for people were now beginning to be alive to the advantages of mutual assur-

ance, and of this society in particular. One thing that would do good, was the distribution of those little bits of paper (the tabular scale of the annual bonuses in the society, as mentioned in the report); some good had been already done with them on the Stock Exchange, for several gentlemen seeing them said to him—"I will insure in your office."—A DIRECTOR said, there were several gentlemen lately assured from the Stock Exchange. (Hear, hear.)

Mr. MATTHEY moved the adoption of the report, which was seconded, and agreed to unanimously.

The Rev. Mr. ROWSELL spoke of the advantages that would arise to professional men, if their premiums could be made to diminish as they progressed, for as families grew up and were more expense, such a reduction would be more acceptable to many than when assurances were first effected. He would be glad to learn from the actuary, whether such a plan was open to the members?

Mr. PETER HARDY, in answer to this member, and at the request of the chairman, said, that the principle of the society was that of increasing the sum assured each year, by a bonus proportioned to the success of the society; but that, at the same time, any member who had been assured for at least seven years, might, at his option, relinquish this bonus in favour of an annual reduction in his premium, which reduction would last for the next seven years then following, after which the bargain would be undone on both sides, the member's premium would rise again to its original amount, the bonus would be re-added to his policy, as though it had never been removed; but a new contract for reducing his premiums for another seven years, might, at his option, be then made, and so on from time to time. The amount by which a premium would be reduced, would be exactly so much annual premium as would serve to reassure the bonus.

Mr. MATTHEY asked, if that would diminish his accumulation?—Mr. HARDY said, of course such would be the effect while the reduction lasted.—The Rev. Mr. ROWSELL would like the principle to be clearly stated for the public information. (Hear, hear.)

A MEMBER observed, that he had seen several advertisements in the *Times*, but had not seen that of the Mutual Life Assurance of the Old Jewry.

Several suggestions, as regarded making more generally known the society and its principles, having been offered by various members, the CHAIRMAN promised that their various suggestions should receive the directors' attention.

After some further discussion, Mr. HALSWELL moved a vote of thanks to the directors.—The Rev. Mr. ROBINSON seconded it, when it was passed unanimously.—The CHAIRMAN returned thanks.

Mr. ROWSELL moved a vote of thanks to their actuary (Mr. Hardy) for his valuable services, which was seconded, and passed unanimously.—Mr. HARDY returned thanks.—A vote of thanks was also passed unanimously to the chairman and trustees of the society, after which the meeting separated.

RUSSIAN GOLD MINES.

A return has just been presented to the House of Commons of the quantity of gold produced in Russia during the last ten years. In order to procure this return, Viscount Palmerston wrote to Lord Bloomfield, the ambassador at St. Petersburg, directions to obtain such a return. Lord Bloomfield, in a letter to Lord Palmerston, states—"I have taken an opportunity of mentioning to Count Nesselrode the nature of the inquiries which have been addressed to me, and his Excellency has promised to procure the required information from the department charged with the supervision of the gold mines. As a considerable period may, however, elapse before I can receive this report from his Excellency, I do not hesitate to forward, in the meantime, to your lordship, Sir E. Baynes' (the English consul in Russia) statement, which has been drawn up with much care, and with as great a degree of accuracy as I believe it is possible to obtain in inquiries of this kind in Russia."

Sir E. Baynes, in a communication on the subject to Lord Bloomfield, says—"Having, on a former occasion, brought under your lordship's notice the discrepancies which are to be found in the details given by different Government departments with reference to the produce of the gold mines of Russia, it is necessary that I should explain here—first, that the quantities of the metal in ingots, stated in the inclosed return for the six years ended with 1842, are taken from an official document emanating from the Minister of Foreign Affairs, and those for the last four years, ended with 1846, from publications made by the Imperial Academy of Sciences; second, that these official statements, of course, only confirm the produce reported to the Government, and that there is reason to believe that considerable quantities have not been declared, partly from peculation, and partly to evade the heavy duties which are levied on the produce of the private mines."

During the ten years, ending with 1846, the total quantity of fine gold produced in the dominions of the Emperor of Russia was 8,387·96 poods, or 368,063·69 British pounds troy, the value of which, at the rate of 113.001 grains troy weight per pound sterling, will be 18,761,310*l.* In 1837, the quantity produced was 402.68 poods, or 17,669·60 British pounds troy, the value of which is 900,673*l.* In 1838, the quantity was 448·93 poods, or 19,699·06 pounds troy, and its value was 1,004,120. In 1839, the quantity was 446·61 poods, or 19,685·00 pounds troy, and of the value of 1,003,403*l.* In 1840, it amounted to 498·52 poods, or 21,875·06 pounds troy, of the value of 1,115,037*l.* In 1841, the quantity was 388·66 poods, or 25,830·40 pounds troy, and its value was 1,316,633*l.* In 1842, the quantity was 826·58 poods, or 36,270·33 pounds troy, and its value was 1,848,308*l.* In 1843, the quantity amounted to 1,178·25 poods, or 51,701·61 pounds troy, and of the value of 2,635,386*l.* In 1844, the quantity was 1,220·84 poods, or 53,570·46 pounds troy, and of the value of 2,730,647*l.* In 1845, the produce was 1,248·34 poods, or 4,777·16 pounds troy, of the value of 2,792,156*l.* In 1846, the quantity produced amounted to 1,586·55 poods, or 66,985·01 pounds troy, and of the value of 3,414,427*l.* The above return comprises the whole produce both of the public and private mines; the Russian Government levy a duty of from 12 to 24 per cent. on the produce of the private mines; the rate being subject to no rule, but varying according to localities and other circumstances. During the ten years, ending with 1846, the return of produce shows—first, that there has been scarcely any difference in the supply from the Oural Mountains; secondly, that the produce of Siberia has increased more than tenfold; and, thirdly, that there has been an augmentation of nearly four to one in the total annual supply. It is said that new mines have been discovered in the Oural; and the fact of an imperial ukase having lately forbidden the sale of public estates in the region of the auriferous sands of Siberia, justifies the inference, that the Government has made successful surveys in that direction, and anticipate a further profitable development of the gold washings which have been so fruitful during the last four years. Under these circumstances, it seems reasonable to expect an increase of supply, of which, however, it is quite impossible to estimate either the proportion or the continuance.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY 41

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, 51, St. Mary Axe, London.

SWANSEA IRON SHIPBUILDING COMPANY.

BUILDERS OF IRON SHIPS, STEAMERS, BARGES, &c.

MANUFACTURERS OF

BOILERS FOR LAND, MARINE, AND LOCOMOTIVE ENGINES, TANKS FOR SHIPPING, GASOMETERS, ROOFS, &c., 42

SWANSEA.

PATENT GALVANISED IRON AND WIRE ROPE WORKS,

MILLWALL, POPLAR.

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in damp situations, for mining and railway purposes, and for ships' standing rigging. 43

PATENT METALLIC LAVA—FOR FOOT PAVEMENT,

FLOORING, COVERING OF ARCHES, TERRACES, VIADUCTS, TUNNELS FOR RAILWAYS, &c.

MANUFACTURED ONLY BY ORSI AND ARMANI.

OFFICES—6, *GUILDHALL-CHAMBERS, BASINGHALL-STREET.* 44

WORKS—*(CUBITT'S WHARF) MILLWALL, POPLAR.*

CALDWALL'S PATENT SELF-FLEETING WINDLASS,

CAPSTAN, AND RIDING BITS COMPANY.

OFFICES—No. 73, *KING WILLIAM-STREET, LONDON.* 45

The patronage of the Lords of the Admiralty and the Hon. Trinity Board, together with testimonials of several of the most practical, scientific, and influential nautical men in the kingdom, having guaranteed the importance to the maritime world of the above-mentioned invention, it is now proposed to carry out the manufacture of the several patented articles—WINDLASSES, CAPSTANS, RIDING BITS, &c., by means of a capital of £100,000, to be raised in 5000 shares, of £20 each, and to be conducted by a company, to be formed for the purpose.

The above inventions, in addition to their superiority over the old windlass, capstan, &c., have the recommendation of greater economy, as they can be supplied at a less price—affording a very handsome profit, and, consequently, a large return to shareholders.

Models may be seen in operation—prospectuses obtained, and every information given, by application at the office, 73, King William-street, City, from Eleven till Four daily, and orders are received there and at the manufactory, Bell Wharf, Shadwell.

ACCIDENT AT EUSTON-SQUARE.—The METALLIC SAND, or ENGLISH POZZOLANO, after many years trial, has been found an invaluable article in the CONSTRUCTION of RAILWAY TUNNELS, SEWERS, and all UNDERGROUND WORKS, requiring great strength and density. In admixture with Lime or Roman Cement, from its chemical properties, it forms a Mortar, or Concrete, of flinty hardness, and almost entire incompressibility; and, from its adhesive and impervious qualities, it completely and for ever excludes water. The more it is exposed to the atmosphere, and to wet and damp, the harder and more durable it becomes: it has been EXTENSIVELY used in the great tunnels on the London and Birmingham Railway; in the foundations of the New Houses of Parliament; sea walls on the South Devon Railway; Clifton reservoirs, and other important works.

For further particulars, apply to Mr. C. K. DYER, 4, New Broad-street, London. 46

Analysis of the Metallic Sand.

Silica..... 49—Iron..... 32—Alumina, lime, &c..... 19.

PATENT IMPROVEMENTS IN CHRONOMETERS, WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufactures of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each. 47

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing adescription and directions for its use 1s. each, but to customers gratis.

STRONG MIXING PIG-IRON.—The YSTALYFERA IRON COMPANY beg to solicit ORDERS for their ANTHRACITE PIG-IRON. This iron mixes well with Scotch pig—imparting to it strength and elasticity, and receiving from it a portion of its softness and fluidity. No. 3 Pig is recommended for mixing with soft iron—Nos. 1 and 2, for machinery castings, requiring great soundness and strength. At this period, when cast-iron is so much employed in the construction of bridges and other buildings, requiring all the strength and elasticity which the best mixture of metal will afford, it may be interesting to call attention to the characteristics of ANTHRACITE PIG-IRON, as REPORTED on by that great practical authority, the late DAVID MUSHET, Esq., M.I.C.E.:—

"It greatly exceeds, in *strength*, in *defective* powers, and capacity to resist *impact*, any iron at this time manufactured in the United Kingdom."

"It now only remains for me to mention a property peculiar to this iron, which was noticed at the time I made the trial experiments, four years ago, but which has been more fully developed in those more recently made. The property referred to is one of *great springiness*, or *elasticity*, which communicates a tendency to the bar, in deflecting and breaking, to resume its rectangular form. Bars that had obtained a permanent set of 2-10ths, when afterwards broken, presented but a slight deviation from a right line; and in no case, did the curvature exceed one-fourth of a tenth."

"It was also remarked, that most of the fractures, in breaking, presented a *regularity of grain* throughout, resembling the structure of *unhardened steel*."

Address THE YSTALYFERA IRON COMPANY,
Dated June 22, 1847. *Near NEATH, SOUTH WALES.*

HOT-BLAST WITHOUT COAL, LABOUR, OR REPAIRS.

DIXON AND BUDD'S PATENTS.

Apply for particulars, or to inspect the process in operation on six blast-furnaces, to J. Palmer Budd, Esq., Ystalyfera Iron-Works, near Neath. 49

Dated June 22, 1847.

CALEDONIAN RAILWAY TIME TABLE—On and after the 15th of FEBRUARY, 1848, UNTIL FURTHER NOTICE.

CARLISLE, EDINBURGH, AND GLASGOW. 50

UP TRAINS.

Edinburgh and Glasgow to Carlisle, &c.

LEAVES	A.M.		P.M.		P.M.		SUNDAYS.	
Glasgow	11 5	....	4 40	....	9 5	....	11 5 A.M.	9 5 P.M.
Edinburgh	11 15	....	5 0	....	9 15	....	11 15	9 15
ARRIVES AT	P.M.				A.M.		P.M.	A.M.
Carlisle	3 48	....	10 50	....	1 29	....	3 48	1 29
Newcastle	7 15	....	—	....	—	....	7 15	—
Preston	8 3	....	—	....	5 39	....	8 3	5 39
Manchester	9 40	....	—	....	6 50	....	9 40	6 50
Liverpool	10 0	....	—	....	7 0	....	10 0	7 0
London	4 45	A.M.	—	....	1 0	P.M.	4 45 A.M.	1 0 P.M.

DOWN TRAINS.

Carlisle, &c., to Edinburgh and Glasgow.

LEAVES	P.M.		A.M.		A.M.		SUNDAYS.	
London	8 45	....	—	....	8 30* / 10 0*	....	8 45 P.M.	10 0 A.M.
Liverpool	—	....	7 45	....	3 25	P.M.	—	—
Manchester	3 23	A.M.	7 55	....	3 35	....	3 23 A.M.	—
Preston	5 15	....	9 50	....	5 16	....	5 15	5 16 P.M.
Newcastle	5 30	....	11 0	....	—	....	—	5 0
Carlisle	9 16	....	2 15	P.M.	9 16	....	9 16	9 16
ARRIVES AT	P.M.				A.M.		P.M.	A.M.
Edinburgh	1 45	....	8 0	....	1 36	....	1 45	1 30
Glasgow	1 55	....	8 15	....	1 40	....	1 55	1 40

* The 8 30 A.M. Train from London takes private carriages.
* The 10 0 A.M. Train from London First Class only.

Fares from Carlisle to Edinburgh and Glasgow.

First Class..... 21s. .... Second Class ... 16s. 8d. ..... Third Class ... 8s. 4d.

N.B.—On and after the 1st of March Express Trains will run between London, Edinburgh, and Glasgow, in 13 hours—between Liverpool and Manchester, or Edinburgh and Glasgow, in 8 hours; and between Birmingham and Edinburgh and Glasgow in 9½ hours.

Edinburgh, Feb. 12, 1848. By order, J. W. CODDINGTON, Sec.

CALEDONIAN RAILWAY—LOANS ON DEBENTURES.

The CALEDONIAN RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS ON DEBENTURES, in sums of not less than £500, for three or five years—bearing interest at the rate of 5 per cent. per annum, payable half-yearly, in Edinburgh, Glasgow, London, Liverpool, Manchester, or Bristol.

Tenders to be addressed to this office. Parties may also communicate personally with Messrs. Foster and Braithwaite, 68, Old Broad-street, London. 51

By order of the directors, D. RANKINE, Treasurer.

Caledonian Railway Office, 122, Princes-street, Edinburgh, March 26, 1847.

CLARKE AND VARLEY'S PATENT ELASTIC ATMOSPHERIC RAILWAY TUBE. 52

The PROPRIETORS are now prepared to GRANT LICENSES, or TREAT with RAILWAY COMPANIES and OWNERS of MINERAL, or other PRIVATE RAILWAYS, for the ADOPTION of the PATENT TUBE.

IMPORTANT IMPROVEMENTS have been recently effected in its CONSTRUCTION, and the proprietors have caused such experiments to be made on the working of the tube at Blackwall, by Mr. William Gravatt, in conjunction with their own engineer, as justify them in recommending this invention, with perfect confidence, to the notice of the public. It is one capable of removing the practical difficulties that have hitherto interfered with the success of the atmospheric principle; and they feel convinced, that, by its means, the superior advantages of this system of railway propulsion will be fully established.

The EXPERIMENTAL TUBE, which is 15 inches diameter, and above 300 ft. in length, may now be seen in operation every day, from One till Four o'clock, at the Poplar Station, on the London and Blackwall Railway.

Communications to be addressed to Mr. W. B. Hays, engineer to the proprietors, of whom any further information may be obtained, at their office, 31, Parliament-street, Westminster.—Feb. 5, 1848.

BRETT AND LITTLE'S ELECTRIC TELEGRAPHS.—We are now prepared to NEGOTIATE with the DIRECTORS of any LINE of RAILWAY desirous of ADOPTING our ELECTRIC TELEGRAPH, or of USING our MEANS of COMMUNICATION for the PREVENTION of ACCIDENTS to RAILWAY TRAINS.—May be seen, and terms known, by applying to BRETT & LITTLE, 53

Furnival's Inn, London.

JOWETT'S PATENT HYDRAULIC TELEGRAPH.

OFFICES—No. 17, WELLINGTON-STREET, STRAND.

(Adjoining the *Morning Post* and *Court Journal*.)

PRELIMINARY ANNOUNCEMENT. 54

In the present important age of mechanical invention and advancement in the various branches of science, probably one of the most prominent production of fertile genius is that of instantaneous correspondence by telegraphic means upon railroads, no matter how far distant the transit. Telegraphic communication by electric machinery has already exhibited, upon numerous lines of locomotive traffic, the great advantages derived by the public through the medium of its powerful agency. But, successful as the telegraph mode of correspondence by electric aid may be considered, still greater and far more effective results will be secured to the public by Jowett's Patent Hydraulic Telegraph. The patentee, in the present limited detail, merely claims public attention to the following items in the way of superiority over the electric telegraph:—1. The economy in the construction of the hydraulic telegraph will be, at least, a saving of two-thirds, compared with the outlay required by the electric, independently of the considerable increase of speed, and the results far more decisive and distinct.—2. No expense whatever (after the first amount for construction) will be necessary to provide for the continuous working of the hydraulic telegraph, it being beyond the possibility of doubt that its action can be deranged, nor can any atmospheric changes interfere with, or affect, the success of its operations.—3. No physical impediment can compete with the laying down and the perpetual use of the hydraulic telegraph—neither height, depth, sinuosity, nor distance opposing in the slightest degree in perfect action. Detailed printed particulars are in preparation. In the meantime the patentee may be seen daily, from Eleven to Three, at the offices, 17, Wellington-street, Strand, where the models and plans are open to the inspection of the public.

FLEXIBLE HOSE-PIPES FOR LOCOMOTIVE ENGINES,

RAILWAY CRANES, FIRE-ENGINES, GAS, &c.

PATENT VULCANISED INDIA-RUBBER HOSE-PIPES AND TUBING OF EVERY DESCRIPTION. 55

These pipes are made to stand hot-water without injury—are very superior to leather pipes, or the common India-rubber pipes; and, as they do not become hard or stiff in the lowest temperatures, or require any application when out of use, are particularly well adapted for fire-engines.

FLEXIBLE TUBING, of every description, for gas, chemical purposes, &c.

VULCANISED INDIA-RUBBER WASHERS, all sizes, for steam and hot-water joints, &c.—Sole manufacturer, JAMES LYNE HANCOCK,

Goswell Mews, Goswell-road, London.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES, FOR MARINE AND LOCOMOTIVE STEAM-BOILERS,

TUBES FOR STEAM, GAS, AND OTHER PURPOSES, 56

ALL SORTS OF GAS FITTINGS.

THE BIRMINGHAM PATENT IRON TUBE COMPANY,

42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER and GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and on the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and are warranted not to open in the weld.

42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM.

WORKS—SMETHWICK, STAFFORDSHIRE.

LONDON WAREHOUSE—No. 68, UPPER THAMES-STREET.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

W. BROTHERTON AND CO.'S 57

PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY.

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hitherto used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and fine pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

NATIONAL DEFENCES. By WILLIAM MALINS.—A PLAN, submitted for the consideration of Government, whereby any required Force, of the heaviest Artillery and Troops, may be concentrated at the point of danger, so as to arrest a hostile Fleet under the Fire of Moveable Batteries, traversing on a Railroad at High-water line of Coast, where assailable. The Electric Telegraph, carried along the same line, would convey notice of the approach of an enemy. From the Harbours of Refuge, Block-ships and Steamers might quickly arrive to attack the enemy in flank and rear, and thus between two fires destroy him.

Published by J. Ridgway, Piccadilly; E. Wilson, Royal Exchange.—*Price* 1s. 58

NATIONAL DISINFECTED AND DRY MANURE COMPANY.

OFFICES—No. 7, *BANK CHAMBERS, LOTHBURY.*

[REGISTERED PROVISIONALLY.]

Capital £200,000, in 20,000 shares, of £10 each.—Deposit £1 per share.

No call will exceed 5s. per share, and the liability of shareholders will be limited to the amount of their respective shares.

PROVISIONAL COMMITTEE.

GERARD BARRY, M.D., Charles-street, St. James's-square.
JAMES ORGILL, Esq., Birmingham.
THOMAS BALDWIN, Esq., Birmingham. 59
JOSHUA E. COOPER, Esq., West Ham, Sussex.

BANKERS—Messrs. Spooner, Atwoods, and Co.

The object of this company is to collect the animal and vegetable refuse of large and populous towns, and subsequently to convert them into a dry, inodorous, and portable manure.

By the company's process all decomposed substances, whether animal or vegetable, liquid or otherwise, may be rapidly converted into a scentless manure—rich in every fertilising quality, and abounding in vegetable stimulant.

A manure, somewhat similar, has for some time been manufactured by a prosperous company in Paris, under the commercial firm of "Baronnet and Co." Their last report states, that "crops were obtained incomparably finer, and more abundant, than by the use of any other manure.

The cost of preparation is trivial, in comparison with any of the present methods of dressing. The committee, therefore, have no hesitation in affirming, that the profits will realise the most sanguine expectations of shareholders.

The primary operations of the company will commence in the town of Birmingham. Samples of the manure may be seen at the offices.

An influential list of patrons and directors will shortly be advertised; meanwhile applications for shares, agencies, &c., may be addressed to

JAMES H. KENWORTHY, Secretary pro tem.

NATIONAL DISINFECTED AND DRY MANURE COMPANY.—Notice is hereby given, that APPLICATIONS for SHARES in this company will NOT BE RECEIVED after the 21st inst.

JAMES H. KENWORTHY, Secretary pro tem 60

7, Bank Chambers, Feb. 19, 1848.

LONDON AND PROVINCIAL DETECTIVE ASSOCIATION, FOR THE PROTECTION OF TRADE.

No. 39, *SOUTHAMPTON-BUILDINGS, HOLBORN, LONDON.* 61

OFFICE HOURS: TEN TO FOUR.

The object of this institution is to furnish every information (which may be obtained by subscribers only) respecting all parties, in any capacity whatever, avoiding their creditors, under any circumstances; also, in providing every species of information calculated to protect Bankers, Merchants, Tradesmen, Companies, Institutions, Assurance Offices, Loan Societies, Auctioneers, Landlords, Tenants, &c., in such a manner hitherto unattempted by any kindred society.

Subscribers may be preserved from losses through fraud of all kinds, by previous application at this office. They are also requested to make every communication in their power that may tend to protect the members, which will be considered strictly private, and, at the same time, deemed a favour.

Persons wishing to become members of this association, must apply, by letter only, addressed (pre-paid) to the secretary, who will forward the rules.

Subscribers only are eligible to apply for any information—the terms of which are £1 1s. per annum—10s. 6d. in advance. H. E. NEWMAN, Secretary.

AGRICULTURIST CATTLE INSURANCE COMPANY,

8, CHATHAM-PLACE, BLACKFRIARS, LONDON.

(*Registered under* 7 *and* 8 *Vic., cap.* 110.)

Subscribed Capital—£250,000. 62

This company was established for the PROTECTION of FARMERS and AGRICULTURISTS, against LOSS BY DISEASE or ACCIDENT among their LIVE FARMING STOCK, in June, 1845; and, on the 31st December, 1847, had issued 20,000 agreements, and paid upwards of £100,000 for losses.

This being a PROPRIETARY COMPANY, with a *subscribed capital*, insurers incur no liability beyond the amount of their premiums, and are put to no additional expense.—*Three-fourths* of the insured amount is paid in case of loss.

LIFE INSURANCE DEPARTMENT.

Insurances on Lives are effected—*Annuities and Endowments* granted—and every branch of *Life Insurance* conducted on the *most liberal terms*. Farmers and Agriculturists will find this office *moderate* in its *rates*, and peculiarly adapted to their position and circumstances.

Annual Premiums for the Insurance of £100 *on a Single Life.*

Age next B. Day.	Whole of Life without Profits.	Whole of Life with Profits.	For the term of One Year.	For the term of Five Years.
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20	1 15 0	1 17 8	1 1 3	1 2 5
25	1 19 10	2 2 10	1 4 0	1 4 8
30	2 5 7	2 9 1	1 5 9	1 6 4
40	3 0 7	3 5 4	1 9 10	1 11 4
50	4 4 7	4 11 4	2 1 6	2 5 7

Application for prospectuses, and every other information, may be made to WILLIAM FENTON, Esq., Manager,

Or to the Local Agents.

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY,

26, *CORNHILL, LONDON.*

Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates. 63

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 9
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 9

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

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